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Interpersonal experiences of the clinically depressed: excessive reassurance seeking and negative feedback seeking

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Interpersonal Experiences of the Clinically Depressed: Excessive Reassurance Seeking and Negative Feedback Seeking

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Abstract

Individuals with depression can engage in aversive interpersonal behaviours, such as excessive reassurance seeking and negative feedback seeking, which can themselves be associated with problematic social relationships. Excessive reassurance seeking is characterized by repeatedly seeking information about one's worth or lovability, whereas negative feedback seeking is characterized by repeatedly seeking negative information about oneself that confirms one's negative self-views. There have been few studies to date that look at both of these seemingly irreconcilable behaviours and their relation to depression, and research has yet to fully support an integrative model that links the two with depression. This study further examined the associations between excessive reassurance seeking, negative feedback seeking, and depression within a clinical sample of 31 participants. Evidence was found for an association between excessive reassurance seeking and depressive symptoms, but no such association was found for negative feedback seeking and depressive symptoms. Perceived rejection fully mediated the association between excessive reassurance seeking and depression, but there was no evidence to suggest that self-esteem acted as a moderator of the associations between excessive reassurance seeking, negative feedback seeking, perceived rejection, and depressive symptoms. Implications for an integrated model are discussed, as are directions for future research. By understanding more about the associations between these behaviours and clinical depression, interventions can be developed that are aimed at reducing such problematic behaviours.

Dedication

"Look, I made a hat – where there never was a hat!" – Stephen Sondheim

I would like to dedicate this to my family.

Mom, Dad, Nicholas, Baba, and Gido -- I struggle to convey in words the depth of my gratitude and appreciation for all that you have done for me throughout my life and throughout these past two and a half years. This accomplishment would not have been possible without the constant support you have all offered me. I am where I am – and I am who I am – because of you.

I also dedicate this to my friends. You have kept my spirits up, you have stood by my side throughout, and you have reminded me time and again what friendship is about.

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List of Abbreviations

AoS: Acceptability to Others subscale

BAI: Beck Anxiety Scale

BDI-II: Beck Depression Inventory, Second Edition

DIRI: Depressive Interpersonal Relationships Inventory

DIRI-RS: Depressive Interpersonal Relationships Inventory – Reassurance Seeking subscale

FSQ: Feedback Seeking Questionnaire

MCSDS: Marlowe-Crowne Social Desirability Scale

RSES: Rosenberg Self-Esteem Scale

Interpersonal Experiences of the Clinically Depressed: Excessive Reassurance Seeking and Negative Feedback Seeking

Major Depressive Disorder is characterized by such symptoms as persistent feelings of sadness, diminished interest in daily activities, fatigue, recurrent thoughts of death, feelings of worthlessness, changes in weight, and/or changes in sleeping patterns (American Psychiatric Association [APA], 2000). In Canada, the lifetime prevalence of Major Depressive Disorder (MDD) is 10.8% (Patten et al., 2006); furthermore, the World Health Organization (WHO) lists unipolar depressive disorders as the third leading cause of global burden of disease and the first leading cause of burden of disease in middle- and high-income countries (World Health Organization [WHO], 2008). Depression is, undoubtedly, a major mental health concern.

Social support has been shown to influence both the development of and the recovery from depression (Barlow, Durand, & Stewart, 2006). It is therefore problematic that those with depression experience negative interpersonal relations: they find their relationships dissatisfying, and they do not engage in as many positive social interactions (Burns, Sayers, & Moras, 1994; Youngren & Lewinsohn, 1980). They have also reported reduced social contact with roommates, little enjoyment of this contact, and high levels of stress; roommates of these individuals have also reported little enjoyment of this contact in addition to experiencing high levels of aggressive-competitive behaviours toward their depressed roommates (Hokanson, Rubert, Welker, Hollander, & Hedeen, 1989; Joiner, 2000). It is therefore troublesome that those who stand to benefit from social support experience such negative interpersonal relations.

Individuals with depression have also been shown to engage in specific self-propagatory behaviours within interpersonal contexts. A self-propagatory process is an interrelated system of psychological and behavioural factors that represents depression-related, initiated, and active

behaviours that prolong or exacerbate the symptoms of depression (Joiner, 2000). In other words, depression and the consequences of depression each induce the other, thereby maintaining the disorder (Joiner, 2000). Two such problematic self-propagatory behaviours in which individuals with depression engage are excessive reassurance seeking, characterized by a desire for reassurance about one's worth or lovability, and negative feedback seeking, characterized by a desire for criticism about oneself that confirms one's negative self-concept.

The present research is concerned with excessive reassurance seeking and negative feedback seeking in depression. Excessive reassurance seeking and negative feedback seeking will be further examined in the following sections; discussions of these concepts' theoretical origins and of relevant empirical literature will be provided. An integration of these two behaviours will also be explored.

Excessive Reassurance Seeking

Background. The concept of excessive reassurance seeking evolved from Coyne's interpersonal theory of depression (1976b). According to Coyne (1976b), several social stressors that involve a change in one's social structure may lead to depression, including, for example, the loss of significant relationships. When experiencing depression, an individual's social interactions would therefore focus on seeking reassurance of one's place in those interactions that are still available to him or her; the individual seeks to understand the nature of the relationships in which these interactions take place, including whether or not such reassurances, when offered, are being offered in a genuine fashion. Such reassurance seeking adversely affects the individual's social relationships as others become annoyed and guilt-ridden by these persistent requests for reassurance and by the distress that accompanies these individuals' requests. Due to these feelings, they continue to provide reassurance when requested, but there

comes to exist an increasing discrepancy between what they say about the person and how they feel about the person. This only supports the depressed individual's beliefs that he or she is not really accepted, causing the individual to seek further reassurance as to his or her worth or acceptability (Coyne, 1976b). As such, according to this theory, depression is detrimental not only to those who experience it but to those who interact with those who experience it.

Research has been found to support this theory. The ability of depressed individuals to "transfer" depressive symptoms onto significant others, for example, is known as "depression contagion." Joiner (1994) found support for the contagion hypothesis in a study that examined both male and female undergraduates: participants' depressive symptoms at Time 1 significantly predicted increases in roommates' depressive symptoms three weeks later. As evidence of specificity, participants' depressive symptoms at Time 1 did not significantly predict increases in roommates' anxious symptoms.

Similar results have been found using clinical populations. For example, when examining both inpatients and outpatients diagnosed with a major affective disorder as well as a significant other with whom the patients lived (e.g., a spouse, partner, friend, sibling, parent, or adult child), it was found that significant others who had been living with someone currently in a depressive episode reported experiencing more burden than did those significant others living with patients who were not in a depressive episode (Coyne et al., 1987). Furthermore, using a measure of anxious and depressive symptoms, those significant others living with someone currently in a depressive episode also reported significantly higher levels of psychological distress, such that they met criteria for needing psychological intervention (Coyne et al., 1987).

Furthermore, research has supported Coyne's idea that the depressed person's social interactions may be problematic for the depressed person, as well as for the depressed person's

interaction partners. Similar to the results discussed above, female undergraduates again reported higher levels of depression, anxiety, and hostility following interactions with depressed patients who were receiving outpatient services at a mental health centre; however, this was not found for those participants who interacted with non-depressed patients or with a control group that was not receiving outpatient services (Coyne, 1976a). Additionally, participants were significantly less willing to engage in future interactions with depressed patients than they were with non-depressed patients or with the controls. When asked what they thought their conversation partners would really be like if they got to know them, participants rated depressed patients as sadder, more uncomfortable, weaker, lower in mood, passive, and negative. As such, interactions with depressed patients induced a negative affect in participants, and participants were more rejecting of depressed patients than non-depressed patients or controls (Coyne, 1976a). Similarly, in their study of 120 female undergraduate students, Strack and Coyne (1983) also found that those participants who had conversed with a depressed person were significantly more depressed, anxious, and hostile following the conversation than were those participants who conversed with a non-depressed person. Furthermore, those participants who had conversed with a depressed person were also significantly less willing to interact with them in the future. As such, the experience of depression can have troubling interpersonal consequences not only for the significant others in a depressed person's life, as discussed above, but for the depressed persons themselves.

Excessive reassurance seeking and depression. Looking specifically at the excessive reassurance seeking described in Coyne's theory (1976b), it can be seen that this behaviour has also been associated with depressive symptoms in the research literature. In a meta-analysis of the literature on excessive reassurance seeking, Starr and Davila (2008) found that higher levels

of excessive reassurance seeking were associated with more depressive symptoms; this effect was of a medium magnitude. Interestingly, this association was marginally weaker in clinical samples than in community samples; the authors speculated that "… the interpersonal causes and consequences of depression change as symptoms grow more severe" (Starr & Davila, 2008, p. 771). Furthermore, those studies with higher percentages of female participants showed stronger associations between excessive reassurance seeking and depressive symptoms (Starr & Davila, 2008).

In one study that illustrates the association between excessive reassurance seeking and depressive symptoms, 87 undergraduate participants completed measures at two time points spaced six months apart (Davila, 2001). Two different measures of depressive symptoms were combined into a composite variable. Using this variable, it was found that excessive reassurance seeking was significantly associated with depressive symptoms at both time points; furthermore, excessive reassurance seeking was a significant predictor of depressive symptoms after controlling for attachment styles (Davila, 2001). Different results were reported by Shaver, Schachner, and Mikulincer (2005): in their study of heterosexual couples, they found that excessive reassurance seeking no longer predicted depressive symptoms after controlling for attachment.

Further support for the association between excessive reassurance seeking and depression has been found, however, by Luxton and Wenzlaff (2005). Participants ($N = 228$) were classified as "dysphoric" based on scores on a measure assessing depressive symptoms; participants were classified as "at-risk" for depression if they had high scores on this measure as well as having had a previous episode of depression. "Never-depressed" participants scored below a certain cut-off on the measure of depressive symptoms and did not indicate a previous episode of

depression. Both the at-risk and dysphoric groups reported higher levels of reassurance seeking than did the never-depressed group. The difference between the at-risk and dysphoric groups disappeared, however, after controlling for self-esteem certainty, or the extent to which individuals are certain of their own self-worth (Luxton & Wenzlaff, 2005). Furthermore, some gender differences were found: at-risk men reported higher levels of reassurance seeking than did at-risk women, and dysphoric men reported lower levels of reassurance seeking than did dysphoric women. No differences were found between never-depressed men and women. The authors suggest that this gender difference resulted from the small sample size of the study.

The Luxton and Wenzlaff (2005) study showed that self-esteem certainty could mediate the relation between excessive reassurance seeking and depressive "status." A ruminative response style has also been shown to fully mediate the association between excessive reassurance seeking and depressive symptoms in a study of 244 undergraduate students (Weinstock & Whisman, 2007). No support was found for ruminative response style as a moderator. In combination with the results of Luxton and Wenzlaff (2005), this suggests that there is an alternative explanation behind the relation between reassurance seeking and depressive symptoms. As the relation can be mediated, the authors suggest that rumination is more proximal – and excessive reassurance seeking more distal – to depressive symptoms (Weinstock & Whisman, 2007).

Excessive reassurance seeking and depression in a clinical sample. Comparatively less research has focused on those with a clinical diagnosis, although the existent literature does support these associations in such a population. Joiner and Metalsky (2001, Study 3) found that, among undergraduate students with a clinical diagnosis, those with a diagnosis of major depression or dysthymia engaged in significantly higher levels of reassurance seeking than did

those undergraduates with clinical diagnoses other than depression. Furthermore, those with depression or dysthymia showed a trend toward higher levels of reassurance seeking than did those with a diagnosis of an anxiety disorder.

The associations between excessive reassurance seeking and depression have also been examined in a population of 87 adults with a mild intellectual disability and their caregiving staff (Hartley, Hayes Lickel, & MacLean, 2008). According to staff, individuals with a depressive diagnosis displayed more reassurance seeking behaviours than did those individuals with a non-depressive diagnosis or without another comorbid psychiatric diagnosis. Examining patient self-report data revealed that participants with a depressive diagnosis engaged in more reassurance seeking than did those without an additional diagnosis, but that they did not engage in more reassurance seeking than did those with a non-depressive diagnosis.

Participants without a comorbid psychiatric diagnosis reported experiencing more negative social interactions than did those with a diagnosis; those with a depressive diagnosis and those with a non-depressive diagnosis did not differ in experiences of negative social interactions (Hartley, Hayes Lickel, & MacLean, 2008). As a measure of interpersonal rejection, staff members were assessed on willingness to interact with their patients; no differences existed in this measure across participants with a depressive diagnosis, with a non-depressive diagnosis, or without a comorbid psychiatric diagnosis (Hartley, Hayes Lickel, & MacLean, 2008).

Correlational relationships were found such that staff reported higher levels of interpersonal rejection for those patients who engaged in more reassurance seeking, however (Hartley, Hayes Lickel, & MacLean, 2008). Although no such relationship was found between staff rejection and participant reports of reassurance seeking, a positive correlation existed between participant reports of reassurance seeking and participant reports of experienced

negative social interactions. Another association existed between self-reported reassurance seeking and self-reported depressive symptoms; this relationship was partially mediated by the experience of negative social interactions. Furthermore, the association between staff-reported reassurance seeking and staff-reported depressive symptoms was also partially mediated by the interpersonal rejection of staff members (Hartley, Hayes Lickel, & MacLean, 2008).

Longitudinal associations between excessive reassurance seeking and depression. In addition to the above-described research, several studies have also examined the association between excessive reassurance seeking and depressive symptoms longitudinally; for example, as mentioned above, Davila (2001) found that excessive reassurance seeking predicted depressive symptoms over six months' time. Such longitudinal findings support the idea of excessive reassurance seeking as a vulnerability factor for depression, as excessive reassurance seeking is shown to temporally precede depressive symptoms (Joiner, Metalsky, Katz, & Beach, 1999).

Other studies have also found a longitudinal association between excessive reassurance seeking and depressive symptoms. Joiner and Metalsky (2001, Study 4) examined 274 symptom-free students at two different time points, with ten weeks in between testing sessions. Initially symptom-free, 17 participants went on to develop an increased amount of depressive symptoms on the BDI. Baseline levels of reassurance seeking were higher for the increased-symptoms group than they were for the symptom-free group (Joiner & Metalsky, 2001).

Joiner (1994) also examined reassurance seeking as a vulnerability factor to depression contagion, using 96 undergraduate students and their same-gender roommates. Three weeks elapsed between two testing sessions. The interaction between Time 1 participant depressive symptoms and Time 1 roommate excessive reassurance seeking behaviour significantly predicted increases in roommate depressive symptoms, such that high reassurance seeking roommates of

depressed participants were more likely to experience an increase in depressive symptoms over time. These findings, however, were not specific to depression: among high reassurance seeking roommates, participants' anxiety predicted increases in both roommates' anxiety and depression, and participants' depression also predicted increases in roommates' anxiety. Interestingly, high reassurance seeking roommates of nondepressed participants had a tendency to become less depressed over time. Thus, whether or not roommates became depressed depended upon the participants that they lived with; however, the authors argue that this finding only emphasizes the detrimental nature of excessive interpersonal dependency (Joiner, 1994).

In addition to the Joiner (1994) results described above, another study has found that, for undergraduate students, reassurance seeking did not predict depressive symptoms over time (Shahar, Joiner, Zuroff, & Blatt, 2004). Despite these findings, the majority of research supports the association between reassurance seeking and depressive symptoms.

Excessive reassurance seeking, depression, and rejection. Furthermore, research done using community and/or undergraduate samples has shown that excessive reassurance seeking interacts with other variables, such as a stressor, to predict depressive symptoms. For example, Joiner and Metalsky (2001, Study 6) investigated the impact of perceived failure on a midterm on the relation between reassurance seeking and depressive symptoms. Those "… who both received a high reassurance-seeking score and received a low grade were the only subgroup to experience increases in depressive symptoms; all other participants experienced decreases or no change" (Joiner & Metalsky, 2001, p. 377).

Keeping in line with Coyne's theory (1976b), interpersonal rejection could be conceived of as such an above-mentioned stressor or negative life event. Indeed, some longitudinal studies have focused on the role played by rejection or by troublesome interpersonal situations. Haeffel,

Voelz, and Joiner (2007) examined excessive reassurance seeking and social support, for example, in 111 undergraduate students at two different time points with five weeks between testing sessions. An interaction between reassurance seeking and changes in social support predicted changes in depressive symptoms, such that those high in reassurance seeking developed more depressive symptoms but only if there were decreases in perceived social support. Neither reassurance seeking nor decreased social support alone predicted changes in depressive symptoms. This interaction only predicted depressive symptoms; it did not predict changes in symptoms of anxiety.

Excessive reassurance seeking has also been shown to moderate the relation between partner devaluation and emotional distress as indicated by depressive symptoms (Katz, Beach, & Joiner, 1998). In a study of 134 undergraduate women in heterosexual dating relationships, as well as their male partners, partner devaluation was not associated with greater emotional distress over time across the whole sample, but it was found to predict greater emotional distress among those women high in reassurance seeking; it was also found to predict greater emotional distress among those women with low self-esteem.

In a study focused on romantic relationships, using only female participants, reassurance seeking predicted women's depressive symptoms over a four-week period, but this association was mediated by conflict stress (Eberhart & Hammen, 2010). Reassurance seeking also predicted daily depressive symptoms over a 14-day period, but, again, this association was also mediated by daily conflict stress (Eberhart & Hammen, 2010). These studies again point out that that the association between excessive reassurance seeking and depressive symptoms can be mediated and/or moderated.

Apart from the above-mentioned study by Hartley, Hayes Lickel, and MacLean (2008), interpersonal rejection has not largely been examined as a mediator of the association between excessive reassurance seeking and depressive symptoms. One study, however, examined excessive reassurance seeking and depressive symptoms in the context of social stressors (Potthoff, Holahan, & Joiner, 1995). Participants included 267 undergraduate university students at three different time points over a five-week period (Potthoff, Holahan, & Joiner, 1995). Depressive symptoms and reassurance seeking were assessed at Time 1, the occurrence of minor social stressors was assessed at Time 2, and depressive symptoms were again assessed at Time 3. Structural equation modeling was used, and it was found that at Time 1, depressive symptoms and reassurance seeking were positively associated. Both Time 1 depressive symptoms and reassurance seeking were positively related to Time 2 minor social stressors, and Time 2 minor social stressors were positively associated with Time 3 depressive symptoms.

Excessive reassurance seeking has also been shown to predict rejection-related depression (Joiner & Metalsky, 2001, Study 5). Participants with high reassurance seeking scores at Time 1, and who experienced higher levels of rejection from their roommates, as measured five weeks later at Time 2, were more likely to experience increases in depressive symptoms (Joiner & Metalsky, 2001).

Excessive reassurance seeking and problematic interpersonal relationships, including rejection. Excessive reassurance seeking has itself been associated with problematic interpersonal relationships. It has been shown to predict women's perceptions of conflict stress in romantic couples over a four-week period, in addition to being associated with daily stress generation over a 14-day-period (Eberhart & Hammen, 2009). The research has also supported the assumption that, among married couples wherein one member is a clinical outpatient, the

patients' reassurance seeking predicted spousal appraisal of patients and continued to do so after accounting for spouses' perceptions of marital adjustment (Benazon, 2000). Furthermore, Harlow and Cantor (1994) examined 54 sorority women, including those who were outcome-focused in that they were concerned with achieving good academic outcomes, and found that, of outcome-focused women, those who were unhappy in the classroom spent more time seeking encouragement from their social support network. The more encouragement that was sought, the less social satisfaction these women reported (Harlow & Cantor, 1994).

Furthermore, in a study that examined heterosexual couples on a daily basis for 14 days, the higher the reports of dyadic conflict on one day, the more change that existed between reports of reassurance seeking for that day and reports of reassurance seeking for the next day (Shaver, Schachner, & Mikulincer, 2005). In one study, Shahar, Joiner, Zuroff, and Blatt (2004) found that, of seven domains of life stress – family relations, relationships with friends, relationships with roommates, relationships with spouses and other intimate partners, school-related stress, general achievement-related stress, and job stress – reassurance seeking significantly predicted only spouse-related stress. The authors suggest that people who engage in reassurance seeking in less intimate relationships, such as roommate relationships, may be less aware of the effects of reassurance seeking on these relationships, which may be why participants did not report experiencing stress in those relationships apart from romantic ones (Shahar, Joiner, Zuroff, & Blatt, 2004). Despite this particular finding, an abundance of the research literature has supported the associations between excessive reassurance seeking and rejection.

A meta-analysis of the literature found that higher excessive reassurance seeking predicted more rejection, an effect that was significant but weak in magnitude (Starr & Davila,

2008). Differences of marginal significance appeared depending upon the type of relationship in which the rejection was occurring, with romantic relationships showing stronger effects than nonromantic relationships (Starr & Davila, 2008).

Longitudinal associations between excessive reassurance seeking, depression, and rejection. In a longitudinal study that examined all three variables – excessive reassurance seeking, depressive symptoms, and rejection – Joiner, Alfano, and Metalsky (1992) tested whether excessive reassurance seeking moderated the depression-rejection relationship. Participants consisted of 353 university undergraduates and their roommates who were tested at two different time points, with five weeks between test sessions. This study also made use of two rejection measures: roommates' evaluations of participants in addition to a measure assessing the roommates' desire to change roommates. The pattern of findings was similar for each measure of rejection.

An association between depressive symptoms and high reassurance seeking scores was found at Time 1 for both females and males (Joiner, Alfano, & Metalsky, 1992). For females, however, rejection – as measured by roommates' evaluations of participants – was not predicted by participants' symptoms of depression, the interaction between depressive symptoms and reassurance seeking behaviour, or the interaction between depressive symptoms, reassurance seeking behaviour, and self-esteem. For males, depressive symptoms did not predict rejection, but the interaction between depressive symptoms and reassurance seeking among those males with low self-esteem, but not among those male participants with high self-esteem, predicted rejection (Joiner, Alfano, & Metalsky, 1992).

Among males high in reassurance seeking and low in self-esteem, depressive symptoms were associated with rejection (Joiner, Alfano, & Metalsky, 1992). Interestingly, among low

reassurance seeking males with low self-esteem, depressive symptoms were significantly related to rejection such that nondepressed participants were more rejected than were depressed participants. The authors suggest that this is because those depressed males who do not seek reassurance are instead self-reliant in dealing with their problems. Females with low self-esteem, however, do not violate societal norms by engaging in reassurance seeking behaviour, whereas males who engage in reassurance seeking behaviour may be seen as violating societal standards by not "taking it like a man" (Joiner, Alfano, & Metalsky, 1992, p. 171).

Excessive reassurance seeking and depression in youth. Further research has examined the relation between excessive reassurance seeking and depressive symptoms in youth. Prinstein, Borelli, Cheah, Simon, and Aikins (2005) studied 520 children and adolescents in grades 6, 7, and 8. Participants were examined at two different time points, with 11 months in between testing sessions. A further 438 participants provided data at a third time point, again 11 months after the second time point. Associations between depressive symptoms and excessive reassurance seeking were significant at each time point; however, excessive reassurance seeking was not found to predict social preference (i.e., whether students were accepted or rejected). Low levels of social preference (i.e., being rejected by peers) were associated with increases in excessive reassurance seeking at Time 2 for those with high levels of depressive symptoms, but not for those with low levels of depressive symptoms. Furthermore, low levels of social preference were associated with increases in excessive reassurance seeking at Time 2 for girls, but not for boys. Perceived negative friendship quality was also associated with increases in reassurance seeking behaviour for girls. Excessive reassurance seeking also impacted reported relationship quality: for girls, higher levels of Time 1 reassurance seeking were associated with

lower levels of self-reported positive friendship quality at Time 2, although this was not found for boys.

The associations between excessive reassurance seeking and depressive symptoms have also been examined in clinical samples of youth. Within a sample of 68 youth inpatients aged 7 to 17 years, for example, a significant association was found between excessive reassurance seeking and depressive symptoms; a significant association was also found between excessive reassurance seeking and interpersonal rejection (Joiner, 1999). Depressive symptoms were associated with self-reported interpersonal problems, and this was especially the case when participants reported high levels of reassurance seeking. Furthermore, the interaction between positive affect and reassurance seeking was significantly related to interpersonal rejection, such that high levels of reassurance seeking and a lack of positive affect led to more rejection. These results were specific to depressive symptoms as opposed to more general symptoms of emotional distress. These results therefore differ slightly from those reported by Prinstein, Borelli, Cheah, Simon, and Aikins (2005), although, overall, both studies have found associations between excessive reassurance seeking, interpersonal rejection, and depressive symptoms, and in both it can be seen that excessive reassurance seeking is associated with problematic interpersonal relations.

Specificity of excessive reassurance seeking. Several of the studies mentioned above also support the idea that excessive reassurance seeking is specific to depressive symptoms as opposed to anxious symptoms (i.e., Haeffel, Voelz, & Joiner, 2007; Joiner, 1994; Joiner, 1999). Furthermore, several studies have specifically examined specificity itself. For example, one such study included 1005 undergraduate students from the United States Air Force Academy as participants (Joiner & Schmidt, 1998). They were tested at two different time points, with

baseline data collected at the beginning of Basic Cadet Training and follow-up data collected five weeks later at the end of the training. At Time 1, the correlation between depressive symptoms and reassurance seeking was significantly higher than the correlation between anxious symptoms and reassurance seeking; this was also found at Time 2. Reassurance seeking scores predicted changes in depressive symptoms; they also predicted changes in anxious symptoms, but this was because anxious symptoms were correlated with depressive symptoms. As such, reassurance seeking significantly predicted changes in depressive symptoms beyond changes in anxious symptoms, but reassurance seeking was not related to increases in anxious symptoms beyond changes in depressive symptoms (Joiner & Schmidt, 1998).

In another such study of 178 undergraduate participants, the relation between excessive reassurance seeking and depressive symptoms was greater in magnitude than the relations between excessive reassurance seeking and anxious symptoms, bulimic symptoms, and drive for thinness; furthermore, the association between excessive reassurance seeking and depressive symptoms was the only association to achieve significance (Burns, Brown, Ashby Plant, Sachs-Ericsson, & Joiner, 2006). Similarly, the relation between excessive reassurance seeking and history of depression diagnosis, as well as the relation between excessive reassurance seeking and history of suicide attempt, was greater in magnitude than the relations between excessive reassurance seeking and history of Obsessive Compulsive Disorder (OCD), bulimia, and anorexia, and were the only two that achieved significance. Family history was also examined. It was found that the correlations between excessive reassurance seeking and family history of depression and attempted suicide exceeded those correlations between excessive reassurance seeking and family history of OCD, bulimia, and anorexia. The associations between excessive reassurance seeking and family history of depression and attempted suicide were the only two to

achieve significance. Although these results support the specificity of excessive reassurance seeking to depression, some of these partial correlations were not statistically different from each other; for example, the partial correlation between excessive reassurance seeking and depressive symptoms did not differ significantly from the partial correlation between excessive reassurance seeking and drive for thinness (Burns, Brown, Ashby Plant, Sachs-Ericsson, & Joiner, 2006).

Specificity has also been examined within clinical samples. One such study involved 229 inpatients (Joiner, Metalsky, Gencoz, & Gencoz, 2001). Those in a "depressed" group consisted of participants with diagnoses of major depression or dysthymic disorder; those in an "other diagnoses" group consisted of participants with schizophrenia, substance use disorders, and anxiety disorder. The depressed group reported higher levels of excessive reassurance seeking. These authors also examined specificity in 72 youth inpatients aged 7-17 years (Joiner, Metalsky, Gencoz, & Gencoz, 2001). Based on chart diagnoses, participants were split into a depressed group, consisting of those with diagnoses of major depression or depressive disorder not otherwise specified, and an externalizing disorders group, consisting of those with diagnoses of conduct disorder, ADHD, or both. Again, those youth in the depressed group reported higher levels of excessive reassurance seeking. In both of these studies, those without depressive diagnoses, but with higher levels of depressive symptoms, were excluded. As such, the research generally supports the specificity of excessive reassurance seeking to depression.

Summary. In support of Coyne's theory, excessive reassurance seeking has been associated with increased levels of depressive symptoms; this relation has been seen in both undergraduate and clinical populations, and it has even been shown to exist longitudinally. Furthermore, the relation between excessive reassurance seeking and depressive symptoms has shown to be mediated by a third variable. Excessive reassurance seeking has also been associated

with problematic interpersonal relations, including interpersonal rejection; however, there is reason to believe that the associations between excessive reassurance seeking, interpersonal rejection, and depressive symptoms may differ based upon one's gender. The associations between these three variables have been seen in younger populations, and, again, the literature has shown that excessive reassurance seeking is, for the most part, specific to depression.

Negative Feedback Seeking

Background. In contrast to excessive reassurance seeking, negative feedback seeking has not been heavily examined in the research literature. This behaviour emerged from self-verification theory; this theory is a type of consistency theory which assumes that people aim to maintain their self-conceptions by seeking self-verifying feedback that confirms their own self-conceptions (Swann, 1990; Swann, Wenzlaff, Krull, & Pelham, 1992). Where these theories differ, however, is in the reasoning behind seeking such self-confirming information: consistency theories posit that people "strive to maintain consistency for its own sake" (Swann, Wenzlaff, Krull, & Pelham, 1992, p. 293) whereas self-verification theory posits that people seek such information out of a "desire to maximize their perceptions of prediction and control" (Swann, Wenzlaff, Krull, & Pelham, 1992, p. 293). Self-verification thus serves to provide individuals with feelings of security (Swann, 1990). As such, self-verification theory posits that people with negative self-concepts will seek negative social feedback or information that confirms their self-concepts.

Negative feedback seeking and depression. Swann, Wenzlaff, Krull, and Pelham (1992) engaged in a series of four studies with undergraduate participants that provided support for self-verification processes; they also provided support for the idea that those with higher levels of depressive symptoms seek negative feedback. In Study 1, they found that people with

higher levels of depressive symptoms displayed a reliable preference for an unfavourable evaluator over a favourable evaluator, whereas people with lower levels of depressive symptoms displayed a reliable preference for a favourable evaluator over an unfavourable evaluator. An interaction was found between depression status and evaluator such that those with lower levels of depressive symptoms viewed favourable evaluations as more self-descriptive than unfavourable evaluations, and participants with higher levels of depressive symptoms viewed unfavourable evaluations as more self-descriptive than favourable evaluations. It was also found that participants were more interested in interacting with evaluators to the extent that they deemed those evaluators' evaluations as self-descriptive (Swann, Wenzlaff, Krull, & Pelham, 1992, Study 1).

In comparison to nondepressed participants, depressed participants preferred that their friends and family view them less favourably on such characteristics as intellectual capability, skill at sports, physical attractiveness, competency in art or music, social skills, leadership ability, common sense, emotional stability, luck, and discipline (Swann, Wenzlaff, Krull, & Pelham, 1992, Study 2). Cognitive processes, as opposed to affective processes, were stronger determinants of the type of appraisal selected by participants; this was evidenced by participants' beliefs about themselves being better predictors of appraisal selection than participants' affective states (Swann, Wenzlaff, Krull, & Pelham, 1992, Study 2).

In a third study, 48 pairs of roommates were examined at the 2nd, 7th, and 12th weeks of a school semester (Swann, Wenzlaff, Krull, & Pelham, 1992, Study 3). Of these pairs, it was found that nondepressed participants were more likely to seek favourable feedback than were those participants with a higher, dysphoric level of depressive symptoms; similarly, those with a dysphoric level of depressive symptoms were more likely to seek unfavourable feedback than

were nondepressed participants. Again, cognitive factors were found to contribute more to feedback seeking than were affective factors. Furthermore, at Time 1, roommates appraised both dysphoric and nondepressed participants in equally favourable terms; however, at the end of the semester, roommates had become less favourable toward dysphoric participants but not toward nondepressed participants. Furthermore, roommates of dysphoric participants were more likely to desire and to plan to leave the roommate relationship. Importantly, during the middle of the semester, the more that participants engaged in negative feedback seeking, the more inclined were their roommates to derogate them and to desire and to plan an end to the roommate relationship (Swann, Wenzlaff, Krull, & Pelham, 1992, Study 3).

In the fourth study, consisting of 87 female undergraduates, participants delivered a speech and were led to believe that they would be evaluated on the delivery of this speech by three expert raters, observing them on a private video monitor from behind a one-way mirror (Swann, Wenzlaff, Krull, & Pelham, 1992, Study 4). Participants were given either positive feedback or negative feedback on their delivery of the speech. They were then allowed to request further feedback from these "expert raters" by selecting questions they would like those raters to answer; these questions were framed so as to either provide positive or negative information. It was found that participants with positive self-conceptions were more likely to request favourable feedback than were those with negative self-conceptions; similarly, those with negative self-conceptions were more likely to request unfavourable feedback than were those with positive self-conceptions. The manipulation of feedback given to participants on their speech delivery had no effects on subsequent feedback seeking. This manipulation was considered a manipulation of affect; as such, this again supports the idea that cognitive factors drive the desire for self-verifying feedback (Swann, Wenzlaff, Krull, & Pelham, 1992, Study 4).

Swann, Wenzlaff, and Tafarodi (1992) conducted two more experiments that again provided support for self-verification among dysphoric inividuals. In the first, participants were given either positive or negative evaluations, and were then given the option of interacting with the evaluator or participating in another experiment. Nondysphoric participants were more likely to prefer interacting with the evaluator when they were positively evaluated, but they preferred a different experiment when given negative evaluations. Dysphoric participants were more likely to prefer interacting with the evaluator when given a negative evaluation, but they preferred a different experiment when given a positive evaluation (Swann, Wenzlaff, & Tafarodi, 1992, Study 1).

They also found that, after receiving social feedback that was incongruent with participants' self-views, people with positive self-views were less likely to seek feedback about their limitations than they were about their strengths, whereas dysphoric people with negative self-views were more likely to seek feedback about their limitations than their strengths. As such, when given information that threatened their global self-views, participants still opted to seek reaffirming feedback when given a choice (Swann, Wenzlaff, & Tafarodi, 1992, Study 2).

Overall, the authors concluded that these studies found that, compared to people with positive self-views, those with negative self-views were more likely to prefer both unfavourable evaluations and interaction partners who evaluated them negatively. They also preferred to be appraised more negatively than did those with positive self-views, and, when their global self-views were threatened, they still displayed a preference for self-verifying information (Swann, Wenzlaff, Krull, & Pelham, 1992; Swann, Wenzlaff, & Tafarodi, 1992). These studies ultimately support the idea that people seek social information that is self-verifying; they also support the idea that depressed people, too, seek negative, self-verifying feedback.

Certainly, people also prefer marital partners, and are closer to those partners, who provide them with self-verifying information. Apart from those studies that made use of undergraduate samples, Swann, Hixon, and De La Ronde (1992) examined self-verification in 86 married couples, recruited from a horse ranch and a shopping mall. They found that people were more committed to spouses who verified their self-concepts, such that people with positive self-concepts were more committed to spouses who viewed them favourably, and people with negative self-concepts were more committed to spouses who viewed them unfavourably. People with moderate self-concepts were not influenced by their spouses' views. Ritts and Stein (1995) replicated these findings using 60 married couples, with one of the couples' spouses having been recruited in an introductory psychology class. Those participants with negative self-views were rated less favourably by their spouses than were those with moderate or positive self-views; furthermore, participants with negative self-concepts were more committed to their relationships when they were evaluated negatively.

Furthermore, De La Ronde and Swann (1998) examined 61 heterosexual married couples and found that they disagreed with and struggled to make sense of feedback that challenged their self-views. Those with positive self-views also reported greater intimacy when their spouses viewed them positively, and those with negative self-views reported greater intimacy when their spouses also viewed them negatively; no pattern was found for those with moderate self-views.

Swann, De La Ronde, and Hixon (1994) did find information to suggest that the type of relationship partner mattered, however, when examining self-verification and intimacy in romantic relationships. In a study of both married and dating relationships, those in dating relationships were more intimate with partners who viewed them favourably, whereas those in marital relationships were more intimate with partners who viewed them in a self-verifying

manner. Those in dating relationships preferred to be viewed favourably regardless of the valence of their self-concepts, and as positivity of evaluations increased, so did relationship intimacy. This pattern of findings was only marginally reliable for those with moderate self-concepts. For married participants with positive self-concepts, intimacy increased as positivity of evaluations increased; for married participants with negative self-concepts, intimacy increased as negativity of evaluations increased. Married participants with moderate self-concepts were not influenced by partner evaluation. The authors suggest that this is because dating relationships are more evaluative, such that people are trying to discern if their partners are potential mates, whereas marital relationships are less evaluative, in that partners assume the relationship will continue and that, with knowledge of each others' strengths and weaknesses, partners can help each other develop.

Validation of one's self-concept was further examined in married couples by Schafer, Wickrama, and Keith (1996). One hundred and fifty-five married couples participated in the study. A significant positive association was found between subjective disconfirmation and depression for wives, such that higher depressive symptoms were reported for women who perceived a greater difference between how they viewed themselves and how they thought their spouses evaluated them. For husbands, objective self-concept disconfirmation had a significant negative association with self-efficacy, such that men reported lower levels of self-efficacy when there was a greater difference between how they viewed themselves and how their spouses actually viewed them. Paths from both subjective and objective and self-disconfirmation to depression were not significant for either husbands or wives. A significant association was found between self-disconfirmation and marital happiness, but this association appeared to be mediated by self-efficacy and depression.

In order to determine what motivates the choice of self-verifying feedback, Swann, Stein-Seroussi, and Giesler (1992) asked 81 participants to think aloud as they chose interaction partners. Those with positive self-concepts preferred evaluators who viewed them positively; those with negative self-concepts preferred evaluators who viewed them negatively. Those with positive self-concepts who chose favourable feedback, along with those with negative self-concepts who chose unfavourable feedback, cited both epistemic and pragmatic reasons for doing so. These reasons are in alignment with maintaining perceptions of prediction and control, which is stipulated by self-verification theory as the reasons why people seek confirming feedback. The authors suggest that self-verification strivings are therefore separate from positivity strivings.

Negative feedback seeking and depression in a clinical sample. Negative feedback seeking has also been examined among those with a clinical diagnosis. Rehman, Boucher, Duong, and George (2008) used a behavioural measure to assess negative feedback seeking in heterosexual couples. Participants included 59 heterosexual couples placed into three groups based upon wives' mental health diagnoses: wives currently depressed, wives whose depression had remitted, and wives who were never depressed. As mentioned, a behavioural measure of negative feedback seeking was used. Husbands were asked to select six positive and six negative qualities of their wives, and to write further feedback on these qualities, using their own words, on a series of individual cue cards; they were then audiotaped while reading these statements aloud. Wives were then asked to select only six of these twelve cue cards. After having made her selections, the remaining six cards were also shown to these wives. The wives were then asked which six of twelve audiotaped statements – identical to the feedback on the cue cards – they would like to hear. This behavioural measure turned out to be a significant predictor of

depression status, and it was significantly correlated with higher levels of negative feedback seeking on a frequently-used self-report questionnaire.

It was found that never-depressed wives requested to see and hear fewer negative traits than did remitted-depressed and currently depressed wives; this association remained after controlling for current depressive symptoms (Rehman, Boucher, Duong, & George, 2008). Furthermore, remitted-depressed wives requested to see and hear fewer negative traits than did currently depressed wives, although this association disappeared after controlling for current depressive symptoms. As such, negative feedback seeking appears to be stably associated with depression; the authors suggested that negative feedback seeking may thus be a vulnerability factor for depression (Rehman, Boucher, Duong, & George, 2008).

Giesler, Josephs, and Swann (1996) have also examined these behaviours in those with diagnoses of clinical depression. Participants were recruited from a university research pool as well as from ads placed in local newspapers; they were divided into three groups: clinically depressed, nondepressed and possessing low self-esteem, and nondepressed and possessing high self-esteem. These classifications were made based on the results of a self-esteem questionnaire, a depressive symptoms questionnaire, and a diagnostic interview. Participants completed questionnaire packets as a part of the study, and they were informed that two graduate students would be creating in-depth personality assessments of the participants based on their answers to these questionnaires. Participants were then informed that, due to a timing error, they would only have enough time to read one assessment. They were provided with summaries of the two profiles supposedly created by the graduate students – each of which was created in advance – and the participant was asked to choose which one he or she would like to read. One summary was positive and the other negative.

Depressed participants chose the negative summary as more self-confirming, and nondepressed participants with high self-esteem chose the positive summary as more self-confirming; nondepressed participants with low self-esteem saw both summaries as equally self-confirming (Giesler, Josephs, & Swann, 1996). The positive summaries were viewed as the more favourable forms of feedback by all three groups, but the groups differed in the extent to which they saw the negative feedback as favourable, with depressed participants viewing the negative summary in the most favourable light of the three groups. Ultimately, group membership impacted choice of summary, as the negative summary was selected by 82% of depressed participants, 64% of low self-esteem participants, and 25% of high self-esteem participants. With regard to depressed participants, this study also found that "when presented with the opportunity to seek favorable evaluations that are also verifying, they fail to exploit the situation fully" and "they… fail to pursue favorable evaluations that they believe they deserve" (Giesler, Josephs, & Swann, 1996, p. 365).

Longitudinal associations between negative feedback seeking, depression, and negative experiences, including interpersonal rejection. There is, of course, the question as to what happens upon receipt of negative feedback. Casbon, Burns, Bradbury, and Joiner (2005) set out to answer this question. In an examination of 95 participants with their same-sex roommates, an interaction was found such that negative evaluations were associated with greater interest in negative feedback, especially among those with more depressive symptoms (Casbon, Burns, Bradbury, & Joiner, 2005). A second study by these authors examined 60 newlywed couples (Casbon, Burns, Bradbury, & Joiner, 2005). These couples were audiotaped while engaging in two social support conversations. In the first conversation, one spouse – the "helpee" – was asked to discuss those things that he or she would like to change about him or herself, and the

other spouse – the "helper" – was to be involved in the conversation by responding in any way the "helper" desired. In the second conversation, the "helpee" and "helper" roles were reversed. These conversations were rated for negative feedback seeking content of the "helpee" after being given negative feedback by the "helper." For those participants with high levels of depressive symptoms, receipt of negative feedback increased participants' negative feedback seeking behaviours; these results were not found for nondepressed participants. Gender was not a significant factor in predicting subsequent negative feedback seeking behaviours. This second study supports that the idea that negative feedback seeking increases directly following the receipt of negative information; it also took place within a more naturalistic context – a conversation with one's spouse. As such, the authors suggest "that the responses of depressed individuals to criticism are potentially self-damaging and likely to perpetuate their ongoing interpersonal and emotional problems" (p. 500).

As has been discussed, individuals with negative self-concepts prefer self-verifying feedback and prefer to interact with people who provide them with that feedback; they may continue to seek negative feedback even after having already received some negative feedback. The longitudinal consequences of receiving such feedback, however, may be less than pleasant; the longitudinal quality of negative feedback seeking has also been examined in the literature. In one such study, Pettit and Joiner (2001b) examined negative feedback seeking in 101 undergraduate students at two different time sessions spaced five weeks apart. Negative life events, self-esteem, and negative feedback seeking were all intercorrelated. The experience of negative life events, such as a fight with a romantic partner, significantly predicted lower levels of self-esteem; furthermore, those who experienced more negative life events displayed greater interest in seeking negative feedback. This association was no longer significant, however, when

controlling for changes in self-esteem over the five week period, suggesting that negative life events were associated with increased negative feedback seeking only due to the influence of lowered self-esteem. When controlling for changes in negative feedback seeking, however, negative life events still predicted lowered self-esteem; thus, the association between negative life events and self-esteem was not due to changes in negative feedback seeking: "changes in feedback-seeking did not lead to corresponding changes in self-concept" (Pettit & Joiner, 2001b, p. 740). As such, the authors suggest that, "… feedback-seeking behaviors are not necessarily stable – as self-esteem fluctuates, so may feedback-seeking behaviors" (Pettit & Joiner, 2001b, p. 738). It is, therefore, possible that lowered self-esteem as a result of negative life events that leads to negative feedback seeking behaviours.

Pettit and Joiner (2001a) sought to replicate these findings using a personal sense of a failure as a source of negative feedback, as opposed to the experience of interpersonal rejection. Seventy-eight university students took part in the study; they were studied one week before a midterm exam and one week following that midterm exam. In the first testing session, students indicated what mark they would personally consider a failure on their upcoming examination. An interaction was found such that those with higher negative feedback seeking scores at Time 1 had higher levels of depressive symptoms at Time 2, but this was only found among those students who received marks lower than their indicated personal failure level on a midterm (Pettit & Joiner, 2001a). This was not found for those who displayed little desire for negative feedback or for those who scores above their personal failure level. As such, similar to what was described above with excessive reassurance seeking, this interpersonal behaviour interacted with a stressor to predict depressive symptoms. This interaction "… was predictive of new symptoms and of exacerbation of preexisting symptoms" (Pettit & Joiner, 2001a, p. 72). Examination of

specificity revealed that neither feedback seeking, personal failure, nor the interaction of the two predicted changes in levels of anxious symptoms (Pettit & Joiner, 2001a).

Joiner (1995) examined the longitudinal impact of negative feedback seeking and its association with both depressive symptoms and rejection, which can be conceived of as a negative life event or as a stressor similar to what Pettit and Joiner (2001a; 2001b) studied above. In Joiner's study (1995), participants included 100 university undergraduates and their same-gender roommates. Testing took place at two different time points, with three weeks between each testing session. Roommate rejection was based upon a measure of roommates' evaluations of participants as well as a measure of their willingness to interact with participants. At Time 1, low self-esteem participants indicated more interest in negative feedback; however, feedback seeking was not related to the rejection measures. It was found that those high in negative feedback seeking at Time 1 and whose roommates evaluated them negatively experienced substantial increases in depressive symptoms between time points. These results were maintained after controlling for self-esteem. Neither variable in isolation predicted increases in depressive symptoms (Joiner, 1995).

Furthermore, the interaction of negative feedback seeking and roommate rejection did not predict anxious symptoms, supporting the specificity of the results to depression (Joiner, 1995). Such specificity was not supported, however, when examining anhedonia, as the interaction did not predict changes in anhedonic symptoms (Joiner, 1995). As such, Joiner suggests that participants are at risk of developing a range of depressive symptoms, and not specific symptoms of depression in particular.

Negative feedback seeking, depression, and rejection. Apart from the Joiner (1995) paper, a few other studies have also examined negative feedback seeking, depressive symptoms,

and interpersonal rejection. As was mentioned above in the discussion of the Swann, Wenzlaff, Krull, and Pelham studies (1992, Study 3), the more that participants engaged in negative feedback seeking, the more likely their roommates were to plan ending the roommate relationship. Furthermore, in the Joiner (1995) study, those high in negative feedback seeking who were evaluated negatively by their roommates experienced substantial increases in depressive symptoms over time.

Rehman, Boucher, Duong and George (2008) also conducted several analyses in their study of negative feedback seeking, discussed above, so as to contextualize their results within heterosexual marital relationships. In those marital relationships characterized by low levels of wife marital satisfaction, for example, greater depressive symptoms predicted greater negative feedback seeking behaviour, but this was not found in those relationships characterized by high levels of wife marital satisfaction. Interestingly, husbands of never-depressed wives had significantly lower levels of depressive symptoms than did husbands of remitted-depressed wives, although the husbands of the currently depressed wives did not differ significantly in levels of depressive symptoms from the husbands in the other two groups (Rehman, Boucher, Duong, & George, 2008). Such findings provide support for Coyne's "depression contagion," described above as the ability of individuals with depression to transmit depressive symptoms onto their significant others (Rehman, Boucher, Duong, & George, 2008).

Weinstock and Whisman (2004) examined a mediational model of negative feedback seeking to see if this behaviour accounted for the relationship between depression and rejection. Sixty-seven heterosexual dating couples were examined. A positive correlation existed between depressive symptoms and levels of negative feedback seeking; low levels of self-esteem were also associated with higher levels of negative feedback seeking. Negative feedback seeking was

only associated with higher levels of partner rejection on one of three scales of rejection (partners' ratings of participants' depression-related traits); however, negative feedback seeking was also associated with higher levels of perceived criticism, which can be considered a measure of perceived partner rejection. When both depressive symptoms and levels of negative feedback seeking were entered into regression equations to predict rejection, only depressive symptoms remained a significant predictor; this also applied to the prediction of perceived criticism. Furthermore, "… neither depressive symptoms nor self-esteem contributed unique variance to negative feedback-seeking when examined together" (p. 252). To date, no studies have been found in the literature whereby rejection is tested as a mediator of the association between negative feedback seeking and depressive symptoms (Timmons & Joiner, 2008).

Negative feedback seeking and depression in youth. Research has also examined the association between negative feedback seeking and depressive symptoms in youth. Borelli and Prinstein (2006) examined adolescents' negative feedback seeking behaviours in a community sample, but they did not find clear associations. Their study involved 478 middle school students aged 11-14 years tested at two different time points, with approximately 11 months between each time point. Higher levels of negative feedback seeking were associated with higher levels of depressive symptoms, social anxiety, and perceptions of friendship criticism. Furthermore, higher levels of both social anxiety and depressive symptoms uniquely predicted higher levels of negative feedback seeking at Time 2. Both higher levels of social anxiety and negative feedback seeking also predicted depressive symptoms at Time 2. Higher levels of negative feedback seeking significantly predicted increases in perceptions of criticism, but for the prediction of peer acceptance/rejection, only higher levels of social anxiety were significantly associated with peer rejection over time.

Several path analyses were further conducted to clarify these relationships (Borelli & Prinstein, 2006). These analyses found that, after accounting for covariation with other predictors, Time 1 negative feedback seeking significantly predicted Time 2 friendship criticism and depressive symptoms among girls. Depressive symptoms, social anxiety, and global self-worth did not significantly predict girls' negative feedback seeking over time, however. Among boys, a marginally significant association was found between high levels of Time 1 negative feedback seeking and low levels of Time 2 social acceptance; another marginally significant association was found between Time 1 social anxiety and Time 2 negative feedback seeking. Furthermore, Time 1 social anxiety significantly predicted Time 2 depressive symptoms. Depressive symptoms and global self-worth did not significantly predict boys' negative feedback seeking over time, however (Borelli & Prinstein, 2006).

As such, the authors suggested that negative feedback seeking may be an especially relevant predictor of depressive symptoms for girls, as it continued to predict depressive symptoms after controlling for social anxiety and low self-esteem (Borelli & Prinstein, 2006). In girls, negative feedback seeking was associated longitudinally with higher levels of perceived criticism among girls, and among boys, it was associated longitudinally with lower levels of peer-reported social preference (i.e., it was associated with peer rejection). Furthermore, depressive symptoms did not predict negative feedback seeking in either gender, but, among boys, social anxiety did. Although this finding contradicts previous findings regarding symptom specificity, the authors argue that this may be because the literature has focused on social anxiety as opposed to anxiety in general (Borelli & Prinstein, 2006).

A clearer association between negative feedback seeking and depressive symptoms has been found in youth clinical samples. Joiner, Katz, and Lew (1997) examined 72 children and

adolescents aged 7-17 years, recruited from two different units at an academic medical center. It was found that those children with more depressive symptoms reported higher levels of negative feedback seeking than did children without depression. When placed into a depressed group (consisting of those participants with chart diagnoses of major depression or depressive disorder-NOS) and an externalizing disorders group (consisting of those participants with chart diagnoses of conduct disorder, ADHD, or both), it was found that the depressed group showed more interest in negative feedback scores than did the externalizing disorders group. Although the study did not find a positive relationship between interest in negative feedback and peer rejection, it was found that this association was moderated by length of relationship. As such, a substantial relation was found between interest in negative feedback and peer rejection among those peers who had known each other for a week or more, but this was not found for those peers who had known each other for less than a week. The authors state that "this result is consistent with Swann et al.'s (1994) proposition that self-verification is most consequential for relatively stable relationships as well as Coyne's (1976) hypothesis that depressed people are caught up in a gradually deteriorating interpersonal context" (Joiner, Katz, & Lew, 1997, p. 616).

In this study, interest in negative feedback was also found to relate to a cognitive index of depression as opposed to an emotional one, supporting the idea of the split between the two (Joiner, Katz, & Lew, 1997). It was found that a cognitive measure of self-esteem significantly predicted interest in negative feedback beyond that which was predicted by negative affect, but negative affect did not significantly predict interest in negative feedback beyond the cognitive measure of self-esteem (Joiner, Katz, & Lew, 1999). Furthermore, in terms of specificity, interest in negative feedback was specifically related to depressive symptoms but not anxious symptoms (Joiner, Katz, & Lew, 1999).

Summary. There has not been as much research on the topic of negative feedback seeking as compared to excessive reassurance seeking; however, the literature supports the idea that people prefer self-verifying feedback and that people prefer to interact with those who evaluate them as they evaluate themselves. Further support has been found for the idea that those with higher levels of depressive symptoms prefer negative feedback; this association has also been seen in clinical samples. Negative feedback seeking has also been associated with interpersonal rejection, and there is evidence to suggest that both negative feedback seeking and interpersonal rejection are associated with increases in depressive symptoms. Some of these associations between negative feedback seeking, depressive symptoms, and interpersonal rejection have also been seen in youth, and, furthermore, there is some evidence to suggest the specificity of negative feedback seeking to depression.

The Integration of Excessive Reassurance Seeking and Negative Feedback Seeking

Although relatively little research has been done on negative feedback seeking in comparison to excessive reassurance seeking, even fewer studies have examined both behaviours. As has been discussed, both excessive reassurance seeking and negative feedback seeking have displayed associations with depressive symptoms and with interpersonal rejection. Yet, these two behaviours are seemingly contradictory: how does a depressed individual seek both reassurance about his or her worth while seeking negative information that confirms his or her self-concept?

In an attempt to reconcile these two behaviours, an integrated model was proposed by Joiner, Alfano, and Metalsky (1993); this model linked both excessive reassurance seeking and negative feedback seeking. This model has its roots in the work of Shrauger (1975), where can be seen the “cognitive-affective crossfire” he proposed as a means of attempting to reconcile

self-consistency and self-enhancement theories. As discussed above, self-consistency theory posits that individuals think and behave in ways that are consistent with their self-views in an attempt to maintain these self-views; as such, information that is congruent with individuals' self-views is deemed more trustworthy and accurate than information that is discrepant from these self-views (Swann, Griffin, Predmore, & Gaines, 1987). Individuals with negative self-views would, again, therefore prefer negative information about themselves, as it is predictable and it confirms what they already believe (Swann, Griffin, Predmore, & Gaines, 1987). On the other hand, self-enhancement theory posits that people are motivated to think positively of themselves (Shrauger, 1975). According to this theory, people with negative self-views lack self-esteem and will compensate for this lack of self-esteem by enhancing their self-views with positive information more so than will those individuals with positive self-views. As such, negative information would be more distressing to individuals with negative self-views than it would be for those individuals with positive self-views. In order to reconcile these two theories, Shrauger (1975) proposed that the self-consistency theory would be applicable when examining cognitive reactions to information, whereas the self-enhancement theory would be applicable when examining affective reactions to information. Several research findings discussed above supported the idea that self-verification processes were motivated by cognitive determinants.

Swann, Griffin, Predmore, and Gaines (1987) provide evidence in support of the cognitive-affective crossfire. In their study, 106 participants delivered a speech, the deliverance of which was assessed by an evaluator. The evaluator's feedback was given to the participants, who would then answer several questions regarding their perceptions of this feedback. The feedback given to participants commented on their appearances as self-confident, comfortable around others, and socially competent; it was prepared in advance and was either positive or

negative. Participants' cognitive and affective reactions to this feedback were both then assessed. Cognitive reactions consisted of perceptions of feedback accuracy, evaluator competence, diagnosticity of the evaluation technique, and attributions regarding the cause of the feedback. A mood measure was used to examine affective reactions, and a measure of attraction to the rater was included as both a cognitive and affective reaction.

They found that those with positive self-concepts viewed the positive feedback as more accurate, the evaluators as more competent, and the evaluation technique as more diagnostic; they also attributed the feedback as being due to themselves as opposed to being due to evaluator characteristics (Swann, Griffin, Predmore, & Gaines, 1987). Those with negative self-concepts viewed negative feedback as accurate and the evaluators as competent in addition to viewing the feedback as being due to themselves as opposed to being due to evaluator characteristics. Also found was that those with positive and negative self-concepts both felt better upon receiving positive feedback. Those who received negative feedback were more depressed, hostile, and anxious; their overall affective state was also less positive. Participants who received positive feedback were also more attracted to the evaluator. Interestingly, when affective reactions were assessed after cognitive reactions were assessed, the affective responses were weaker. The authors suggest that this may be due to the passage of time, or it may be because of something to do with completing the cognitive measures themselves (Swann, Griffin, Predmore, & Gaines, 1987).

As such, the authors concluded that their data support Shrauger's (1975) cognitive-affective crossfire, wherein cognitive reactions to social feedback adhere to self-consistency theory whereas affective reactions to social feedback adhere to self-enhancement theory (Swann, Griffin, Predmore, & Gaines, 1987). They suggest that cognitive and affective reactions are

therefore independent of each other, which violates the assumption of psychological unity; this assumption "holds that a superordinate cognitive system oversees all mental activity and resolves inconsistencies between thoughts, feelings, and actions" (Swann, Griffin, Predmore, & Gaines, 1987, p. 886). Furthermore, research has supported the idea that more complex cognitive processes underlie self-verifying processes as opposed to self-enhancing processes (e.g., Swann, Hixon, Stein-Seroussi, & Gilbert, 1990). Several studies referenced in the discussion of self-verification theory, above, also found support for the idea that a preference for self-verifying feedback was motivated by cognitive processes as opposed to affective processes (e.g., Swann, Stein-Seroussi, & Giesler, 1992; Swann, Wenzlaff, Krull, & Pelham, 1992).

As such, in putting forth their own model of the cognitive-affective crossfire as it pertains to excessive reassurance seeking and negative feedback seeking, Joiner, Alfano, and Metalsky (1993) integrated the work of Swann and colleagues (1987) with the work of Coyne (1976). They proposed that depressed individuals would seek reassurance from others as to whether they truly cared, and such reassurance would affectively satisfy depressed individuals. This satisfaction would only be temporary, however, lasting up until the information was cognitively processed and the individuals realized that it was incongruent with their own self-views. Such a realization would prompt these individuals to then engage in negative feedback seeking behaviours. According to this model, individuals with depression therefore engage in both excessive reassurance seeking and negative feedback seeking, and are thus more likely to elicit interpersonal rejection. For individuals with depression, the reception of negative information or social feedback is what places them in the cognitive-affective crossfire, as they are left struggling to reconcile their self-verifying needs for negative feedback with their self-enhancing needs for positive feedback (Joiner, Alfano, & Metalsky, 1993). It is their desire for conflicting social

feedback, obtained via both negative feedback seeking and excessive reassurance seeking behaviours, that elicits rejection from others (Joiner & Metalsky, 1995).

To test this model, Joiner, Alfano, and Metalsky (1993) examined 302 university undergraduate participants and their same-gender roommates at two different time points, with five weeks between these time points. Participants were classified as "depressed" or "nondepressed" based upon scores on the Beck Depression Inventory (BDI), a measure of the severity of depressive symptoms.

At Time 1, participants in the depressed group reported higher levels of negative feedback seeking and reassurance seeking than did the nondepressed group (Joiner, Alfano, & Metalsky, 1993). Furthermore, an interaction effect was found, such that the interaction of depressive symptoms, negative feedback seeking, and excessive reassurance seeking predicted negative evaluation by their roommates at Time 2. This interaction was maintained after accounting for the interaction between depressive symptoms, reassurance seeking, and self-esteem. No such interaction effect was found for the prediction of a desire to change roommates, however; as such, this effect was found for one measure of rejection (negative evaluation by roommates) but not another (desire to change roommates). The authors suggest that this may be because roommates "desire to continue the relationship to help them or to avoid the guilt associated with ending the relationship" (Joiner, Alfano, & Metalsky, 1993, p. 130).

Furthermore, the interaction of depressive symptoms and reassurance seeking significantly predicted roommate rejection among those high in negative feedback seeking, but not among those low in negative feedback seeking (Joiner, Alfano, & Metalsky, 1993). Also, in those participants high in negative feedback seeking and reassurance seeking, depressive symptoms showed a significant relation with negative evaluation by roommates. Among those

who were high in negative feedback seeking but low in reassurance seeking, depressive symptoms were still associated with negative roommate evaluation; however, the association was such that depressed participants were less negatively evaluated than nondepressed participants. The authors speculate that this may be because the demands that these participants are placing on others do not require incongruent feedback; instead, these participants display an interest in self-verifying feedback only (Joiner, Alfano, & Metalsky, 1993).

As such, this study supported the model in that those high in reassurance seeking, negative feedback seeking, and depressive symptoms received more negative evaluations from their roommates. These behaviours did not predict negative evaluations from others for the nondepressed group. Furthermore, this applied to both male-male and female-female roommate dyads. Within the context of past research that has found that males who engage in reassurance seeking experience more rejection than do females who engage in reassurance seeking, the authors suggest that females must go to greater lengths in their interpersonal circles to elicit such rejection, such that they engage in more than the one aversive interpersonal behaviour (Joiner, Alfano, & Metalsky, 1993).

Another such test of this theory was conducted using 182 university undergraduate participants and their same-gender roommates at two different time points, with three weeks in between testing sessions (Joiner & Metalsky, 1995). In addition to assessing roommates' evaluations of participants, this study assessed the roommates' willingness to interact with the participants as a secondary measure of rejection instead of using a measure that evaluated their desire to change roommates. Classification into "depressed" and "nondepressed" groups was done similarly to the Joiner, Alfano, and Metalsky (1993) study (Joiner & Metalsky, 1995).

Again, at Time 1, depressed participants reported engaging in more negative feedback seeking than did nondepressed participants, although, puzzlingly, no such differences were found between depressed and nondepressed participants for reassurance seeking behaviours (Joiner & Metalsky, 1995). Reassurance seeking was, however, associated with depressive symptoms at Time 2.

Different results were found among female and male roommate dyads (Joiner & Metalsky, 1995). For female dyads, depressive symptoms, reassurance seeking, and negative feedback seeking were not related to negative roommate evaluations. For male dyads, nondepressed participants did not experience any increases in negative evaluations by roommates, regardless of whether or not they had high levels of depressive symptoms, negative feedback seeking, or reassurance seeking. Consistent with the integrative model, however, was the finding that depressed males high in both reassurance seeking and feedback seeking experienced increases in rejection, as measured by roommate evaluation, between the two time points. Males had to engage in both aversive behaviours, however, in order to elicit rejection, which conflicts with previous findings in the literature (Joiner, Alfano, & Metalsky, 1992). Again, high reassurance seeking and high negative feedback seeking did not elicit rejection from others for female dyads. These findings were similar for both measures of rejection.

This study also examined specificity to depressive symptoms. Using the Beck Anxiety Inventory (BAI), a measure of anxiety symptoms, the authors failed to find an interaction effect among anxiety symptoms, reassurance seeking, negative feedback seeking, and gender. The interaction among anhedonia, or a lack of positive affect, and reassurance seeking, negative feedback, and gender did not, however, significantly predict rejection as measured by roommate evaluation. As such, only one set of analyses supported specificity to depression in this study –

those pertaining to anxious symptoms as opposed to anhedonic symptoms (Joiner & Metalsky, 1995). The authors suggested that anhedonia alone is not sufficient to elicit rejection when engaging in high levels of reassurance seeking and negative feedback seeking, but the other symptoms of depression are also necessary to see this effect.

In another study that examined both behaviours, Katz and Beach (1997) set about investigating these behaviours not amongst roommates, but amongst heterosexual females and their romantic partners. One hundred and thirty five pairs completed survey questionnaires, with females being tested first and their male partners being sent a questionnaire by mail. An interaction effect was found, such that women's levels of depressive symptoms, reassurance seeking, and negative feedback seeking predicted their partners' satisfaction with their relationships. This effect was not accounted for by women's relationship satisfaction, nor was it accounted for by men's evaluations of their female partners, as each significantly and independently related to relationship satisfaction. As such, partner evaluation did not mediate the association between the interaction and men's relationship satisfaction. The authors therefore suggest that rejection "may manifest itself differently in various interpersonal contexts. Romantic relationships are not randomly assigned, but self-selected, and romantic partners may be less likely than roommate pairs to evaluate each other negatively on measures frequently used to assess this construct" (p. 254). Furthermore, "… men were most dissatisfied in relationships with dysphoric female partners when these women showed interest in both reassurance and negative feedback" (p. 252); men's levels of satisfaction were not as low as they were when females experienced lower levels of only one of depressive symptoms, reassurance seeking, and negative feedback seeking. Interestingly, "… women who reported both higher levels of dysphoria and greater interest in negative feedback from their partners evidenced substantially less dating

relationship satisfaction" than did other women (p. 253). This effect was only marginally significant, however.

Not many studies have further examined both excessive reassurance seeking and negative feedback seeking. One study did examine both in association with cognitive styles; interestingly, higher amounts of negative feedback seeking predicted a perceived loss of social support over time, although higher amounts of reassurance seeking did not predict a loss of social support over time (Haeffel & Mathew, 2010). Furthermore, the model proposed by Joiner, Alfano, and Metalsky (1993) suggests a temporal precedence whereby excessive reassurance seeking occurs before negative feedback seeking; presumably, these behaviours would alternate in a cyclical fashion. The reader may wonder how this "cycle" is reconciled with the findings of Casbon, Burns, Bradbury, and Joiner (2005), wherein negative feedback seeking begets further negative feedback seeking. The authors suggest that the participants in their study may have continued to seek negative feedback in order to ensure that the original negative feedback received was genuine – to "cement" this negative feedback in their minds. They may also continue to seek negative feedback so as to "shape" it to fit their own self-concepts. The authors then suggest that it is after a certain amount of time that participants could then alternate back to seeking reassurance – perhaps after ruminating upon how affectively unpleasant is negative feedback (Casbon, Burns, Bradbury, & Joiner, 2005).

After the current project outlined in this document had been designed, new literature emerged that discussed both of these behaviours together. For instance, Evraire and Dozois (2011) drew upon existing literature and proposed a new integrative model, wherein excessive reassurance seeking is characterized as a search for "global enhancement" information and negative feedback seeking is characterized as a search for "specific verification" information.

This model takes into account early core belief systems reflecting either security or insecurity in relationships as well as core belief systems about the self. It posits that upon receipt of global enhancement feedback (i.e., reassurance), individuals with early core-beliefs reflecting security in relationships will achieve positive relationship outcomes (security and satisfaction); similarly, upon receipt of specific verification feedback (i.e., self-verifying feedback), individuals with an overall positive core belief system about the self will also achieve positive relationship outcomes. For individuals with early core-beliefs reflecting insecurity in relationships, however, the receipt of global enhancement feedback will lead the individual to question this feedback due to their fear of abandonment and intolerance of uncertainty, and they will engage in this questioning in a persistent and interpersonally aversive fashion. These behaviours will cause relationship partners to feel frustrated and burdened, leading the individual to experience interpersonal stress and/or rejection and then the development of depressive symptoms, as well as more excessive reassurance seeking. For individuals with overall negative core belief systems about the self, the receipt of specific verification feedback will lead to negative emotional experiences for individuals who believe this information to be accurate. These negative emotions will lead to increases in depressive symptoms, and their negative self-views will also be externalized and will allow others to share these negative views of the individuals in question, thereby also leading to increases in depressive symptoms as well as more negative feedback seeking (Evraire & Dozois, 2011). Future research should continue to investigate this model; however, it was not possible for the current study to do so.

Similarly, another study was published after the current project had been designed that examined excessive reassurance seeking and negative feedback seeking with respect to other constructs. Knobloch, Knobloch-Fedders, and Durbin (2011) suspected that "… relational

uncertainty may motivate reassurance-seeking and negative feedback-seeking behaviour" (p. 438). Relational uncertainty "… occurs when people are unsure about their own involvement in the relationship (self uncertainty), their partner's involvement in the relationship (partner uncertainty), and the status of the relationship itself (relationship uncertainty)" (p. 441). These researchers were also interested in the dynamics of the relationship in which excessive reassurance seeking and negative feedback seeking occurred, such as whether or not participants' (or "actors'") depressive symptoms impacted partners' excessive reassurance seeking and negative feedback seeking.

These researchers examined 69 heterosexual couples; the partners in these couples had different levels of depressive symptoms and relational uncertainty (Knobloch, Knobloch-Fedders, & Durbin, 2011). The couples were asked to discuss six different topics (vacation planning, woman's conflict issue, man's conflict issue, woman's sad feelings, man's sad feelings, and the best things about their relationship) over a period of 50 minutes. These conversations were videotaped, and raters coded levels of excessive reassurance seeking (e.g., "I'm good at this, aren't I?") and negative feedback seeking (e.g., "I'm no good at this, am I?") from 0-6 for every two minutes of conversation.

Among males, neither excessive reassurance seeking nor negative feedback seeking correlated significantly with depressive symptoms; among females, only excessive reassurance seeking correlated significantly with depressive symptoms (Knobloch, Knobloch-Fedders, & Durbin, 2011). Less excessive reassurance seeking and negative feedback seeking took place among participants during the first and last conversation topics, but was higher across the more substantive conversation topics; excessive reassurance seeking and negative feedback seeking levels did not differ across these four topics.

Multilevel modeling then revealed that an actor's and a partner's depressive symptoms were positively associated with an actor's excessive reassurance seeking, but not negative feedback seeking; furthermore, sex did not interact with either individual's depressive symptoms to predict either of the two interpersonal behaviours (Knobloch, Knobloch-Fedders, & Durbin, 2011). Although this finding fits in with that of the current study, as an explanation for this lack of association the authors suggested that, "features of the dyadic context (other than relational uncertainty) may moderate the link between depressive symptoms and negative feedback-seeking" (p. 455).

When looking at relational uncertainty, self, partner, and relationship uncertainty of the actor did not predict the actor's reassurance seeking, but a partner's relationship uncertainty was associated with an actor's reassurance seeking (Knobloch, Knobloch-Fedders, & Durbin, 2011). The actor's self, partner, and relationship uncertainty were positively associated with the actor's negative feedback seeking. No main effect was seen with a partner's relationship uncertainty and the actor's negative feedback seeking, but actor's sex moderated this association such that women's partner uncertainty was positively associated with men's negative feedback seeking; however, men's partner uncertainty did not relate to women's negative feedback seeking. Further analyses ruled out relational certainty as both a mediator and a moderator of the associations between excessive reassurance seeking, negative feedback seeking, and depressive symptoms. Ultimately, the authors concluded that "… the depressive symptoms of actors and partners were the primary predictor of an actor's reassurance-seeking, but an actor's relational uncertainty was the primary predictor of an actor's negative feedback-seeking" (p. 437). Again, while future research should continue to investigate these constructs with respect to excessive reassurance seeking and negative feedback seeking, it was not possible for the current study to do so.

Although, again, little research has been done in the hopes of integrating these two behaviours in a model, and although some conflicting findings have been reported, the initial Joiner, Alfano, and Metalsky (1993) study did provide support for their model. Furthermore, their model suggests that simply engaging in these behaviours is not enough to warrant rejection; there is something about being depressed that "toxifies" these behaviours and results in interpersonal rejection. The model posits that depression, along with the need to seek incongruent feedback, is what will result in an individual's being rejected. It was with the Joiner, Alfano, and Metalsky (1993) model in mind that the current study was designed.

The Present Study

The purpose of the present study is not to test a specific model of these behaviours but to further clarify the associations between excessive reassurance seeking, negative feedback seeking, and depression in a clinical sample located in a Canadian city. Several gaps in the literature will have been made apparent in the above review. As can be seen, the majority of the research on these two behaviours has focused more so on excessive reassurance seeking; fewer studies have focused exclusively on negative feedback seeking, and even fewer have attempted to study both. Furthermore, the majority of the research has not examined participants with a clinical diagnosis, nor have many studies made use of Canadian participants – the author is unaware of any study that has studied both excessive reassurance seeking and negative feedback seeking in a Canadian sample. In studying both behaviours, it is expected that those participants with higher levels of depressive symptoms will engage in both higher levels of excessive reassurance seeking and negative feedback seeking (Hypothesis 1).

This study will also examine the role of perceived interpersonal rejection as a mediator in the associations between excessive reassurance seeking, negative feedback seeking, and

depressive symptoms. Few studies have examined participants' feelings of being rejected, and it is presumably the sense of being rejected that would exacerbate depressive symptoms and maintain excessive reassurance seeking and negative feedback seeking behaviours. Furthermore, although several studies have examined the role of interpersonal rejection, few have examined it as a mediator (e.g., Hartley, Hayes Lickel, & MacLean, 2008; Potthoff, Holahan, & Joiner, 1995). The associations between excessive reassurance seeking and depressive symptoms are capable of being mediated (e.g., Luxton & Wenzlaff, 2005; Weinstock & Whisman, 2007); furthermore, social stressors and interpersonal rejection have mediated the association between excessive reassurance seeking and depressive symptoms (Hartley, Hayes Lickel, & MacLean, 2008; Potthoff, Holahan, & Joiner, 1995). Although excessive reassurance seeking and negative feedback seeking have been examined as moderators of the association between depression and rejection in the Joiner, Alfano, and Metalsky model (1993), it is possible that rejection could mediate the associations between excessive reassurance seeking, negative feedback seeking, and rejection. This is in keeping with the idea of these behaviours as self-propagatory processes; it is also in keeping with the idea that these behaviours may be risk factors for depression (Timmons & Joiner, 2008). In their discussion of excessive reassurance seeking and negative feedback seeking as possible risk factors for depression, Timmons and Joiner (2008) mention that although some of the studies conducted in this area "… were not specifically conceptualized as models of risk for depression, they can be viewed as presenting a meditational model, in which the association between ERS and depression is mediated by interpersonal rejection" (p.432). They also suggest that this could be the case for negative feedback seeking, as well. It is therefore expected that the associations between excessive reassurance seeking, negative feedback

seeking, and depressive symptoms will be mediated by perceived interpersonal rejection (Hypothesis 2).

Another purpose of this study is to examine specificity of these behaviours to depression. Although there have been a few findings to indicate otherwise (e.g., Borelli & Prinstein, 2006; Joiner, 1994), the majority of the research has found that these behaviours are specific to depression as opposed to anxiety, and it is therefore expected that these behaviours will display diagnostic specificity to depression. Furthermore, it is expected that these behaviours will be endorsed more so by those with higher symptoms of depression than by those with only higher symptoms of anxiety (Hypothesis 3).

Self-esteem has also been examined in relation to these behaviours. For example, it was the interaction of depressive symptoms, reassurance seeking, and self-esteem that predicted rejection (Joiner, Alfano, & Metalsky, 1992). Furthermore, lower self-esteem has also been associated with higher levels of negative feedback seeking (Weinstock & Whisman, 2004). Although Joiner, Alfano, and Metalsky (1993) found that the interaction between depressive symptoms, reassurance seeking, and self-esteem did not mediate the association between rejection and the interaction of depressive symptoms, excessive reassurance seeking, and negative feedback seeking, this study will also conduct sub-analyses to clarify the role played by self-esteem in these self-propagatory processes.

Some studies have also reported different findings for males and females. One gender has been reported as seeking more reassurance than the other (e.g., Luxton & Wenzlaff, 2005; Starr & Davila, 2008). Furthermore, as concerns excessive reassurance seeking, Joiner, Alfano, and Metalsky (1992) found that it was only for males that high reassurance seeking, low self-esteem, and depressive symptoms interacted to predict rejection. Borelli and Prinstein (2006) found that,

among adolescents, it was only for girls that negative feedback seeking predicted depressive symptoms. In examining both behaviours, Joiner and Metalsky (1995) found that, for females, depressive symptoms, excessive reassurance seeking, and negative feedback seeking did not predict rejection, whereas, for depressed males, high levels of reassurance seeking and negative feedback seeking experienced more rejection. Katz and Beach (1997) also found differences between men and women when examining these associations. For example, the interaction of women's depressive symptoms, reassurance seeking, and negative feedback seeking predicted male partners' relationship satisfaction. Women's relationship satisfaction was only predicted by women's depressive symptoms (Katz & Beach, 1997). Due to these conflicting findings, this study will also conduct sub-analyses to determine if the associations between excessive reassurance seeking, negative feedback seeking, depression, and perceived rejection will differ for males and females.

Method

Procedure

This project was reviewed and approved by three separate research ethics boards (St. Joseph's Care Group, Thunder Bay Regional Health Sciences Centre, and Lakehead University). The sample consisted of adult outpatients who were referred for clinical treatment in a Canadian city. Although the researchers hoped to make use of three different clinical sites, only two of these sites were conducting intake assessments during the time period in which participant recruitment took place, which limited the amount of data that could be collected. Thus, data were collected from two clinical sites at St. Joseph's Care Group. Two individuals coordinated participant recruitment efforts at one site whereas one individual coordinated participant

recruitment efforts at the other. In total, six clinicians at both sites handed out packages to potential participants.

Those individuals who completed an intake assessment either in person or over the phone between the months of May and October 2012 were invited to participate in the study. One site catered to clientele with more severe mental health impairments; the opportunity to participate in the study was therefore not given to all participants completing the intake process at this site as clinicians felt that some of these clients would have significant difficulty completing the questionnaires due to their mental health or cognitive impairments. At the end of the intake assessment, intake workers asked if the client was interested in receiving information about a research study being conducted at St. Joseph's Care Group. If the client was interested, a preassembled study package was handed over during those intake assessments that occurred in person; for those that occurred over the telephone, the intake workers received permission to mail a package to potential participants. The preassembled study packages consisted of letters of information, a questionnaire package, and a preaddressed stamped return envelope. Consent was implied by the participants' completing and returning the questionnaire packages; participants could also choose to return a ballot for a draw for one of three $50 shopping gift certificates in a separate envelope. Participants therefore returned these packages by mailing them. As such, the researchers were completely unaware of the names of those who agreed to participate. As this precluded participants' abilities to withdraw their data from the study, the letters of information placed a special emphasis on this fact.

Data collection began in May of 2012, but due to low participation an amendment to the study was submitted to the three research ethics boards in July of 2012 and was approved by mid-August. This amendment allowed clinicians to discuss the opportunity to participate in the

project at group therapy sessions held by the two different clinical sites. At the first site, these groups included an Anxiety group, a Mood group, and a My Health My Choices group, the latter of which existed to teach individuals principles of mental health self-management. The groups at the second site included Anger Management, Assertion, Understanding Anxiety, and Understanding Depression. The procedure was very similar to that which was employed for the intake assessments that occurred in person: the group therapy clinicians discussed the study with clients and placed the preassembled study packages in a location where interested clients could pick one up. Participants returned these packages through the mail, and they were also given the option of returning a raffle ballot. The participants again implied consent by filling out and returning the questionnaires.

A statistical power analysis suggested a sample size of 112 participants was necessary, and, in an attempt to obtain this number, a total of 151 packages were distributed across the two sites – 60 at the first site and 91 at the second site. This resulted in a return rate of 20.53%. "Left-over" questionnaire packages were picked up from the second site by mid-October 2012; the first site took an extra week to discuss the study with potential participants. The final questionnaires used in this study were those that had been mailed to the researchers by the end of October 2012.

Participants

The final sample included 31 participants who ranged in age from 19 to 88 years (M = 47.24, SD = 16.62). The sample consisted primarily of white females. Table A1 outlines the demographic characteristics of the sample, including gender, ethnicity, marital status, highest level of education completed, and total household income.

With respect to mental health status and mental health treatment, 15 participants (48.4%) reported having at least one mental health diagnosis. These diagnoses included such things as

Depression (*n* = 10), Bipolar Disorder (*n* = 3), Anxiety (*n* = 5), Panic Disorder (*n* = 1), Posttraumatic Stress Disorder (PTSD) (*n* = 3), OCD (*n* = 1), ADHD (*n* = 2), and Borderline Personality Disorder (*n* = 1). Table A2 outlines the treatment history of the study's sample, including types of current and past treatment for mood and anxiety disorders.

Measures

General information. A demographics questionnaire (Appendix A) was used to gather information about participants, including age, gender, and ethnicity. Questions were also included about participants' psychological histories, including presence of diagnoses, when diagnoses were received, current treatment, previous treatment history, and so on.

Excessive reassurance seeking. The Depressive Interpersonal Relationships Inventory (DIRI) was designed so as to assess the interpersonal attitudes and behaviours described by Coyne's theory, including general dependency, doubting others' sincerity, reassurance seeking, and dependence on close others (Joiner & Metalsky, 2001; Appendix B). The reassurance seeking subscale (DIRI-RS) consists of four items, such as, "Do you find yourself often asking the people you feel close to how they *truly* feel about you?" Responses are made on a 7-point scale, with anchors at 1 (*not at all*) and 7 (*very much*). Scores are averaged across items, resulting in a total reassurance seeking score ranging from 1 to 7, with higher scores representing greater reassurance seeking (Joiner & Metalsky, 1995).

A recent study reported a coefficient alpha of .80 for the reassurance-seeking subscale (Haeffel & Mathew, 2010); similarly, in a sample of clinical inpatients, a coefficient alpha of .89 was reported for the subscale (Joiner, Metalsky, Gencoz, & Gencoz, 2001). The measure also displays good construct validity (Joiner & Metalsky, 2001). Internal consistency of this measure in the present study was determined using Crohnbach's alpha, with alpha values at or above the

threshold of .70 considered acceptable (Kaplan & Saccuzzo, 2005). A Cronbach's alpha of .92 was found for the total scale and .97 for the four-item reassurance-seeking subscale.

Negative feedback seeking. The Feedback Seeking Questionnaire (FSQ) was included as a measure of participants' desire for negative feedback (Swann, Wenzlaff, Krull, & Pelham, 1992; Appendix C). Participants are provided with a list of questions organized into five domains: social, intellectual, artistic/musical, physical appearance, and sports. There are six questions listed in each domain, three of which are positively framed (e.g., "What is some evidence you have seen that _____ has good social skills?") and three of which are negatively framed (e.g., "What is some evidence you have seen that _____ doesn't have very good social skills?"). Participants are instructed to pick two questions from each of the five domains that they would hypothetically like another person with whom they have a close relationship to answer about them. A feedback-seeking score is then devised based on the number of negatively-framed questions selected; the score can therefore range from 0-10, with higher scores indicating greater amounts of negative feedback seeking (Joiner, Alfano, & Metalsky, 1993). Additionally, in this study, participants were given a choice as to what type of relationship partner they would hypothetically like to have answer these questions about them: a romantic partner, a close friend, a parent, a sibling, or other.

A significant association was also found between Time 1 FSQ and Time 2 FSQ scores when examining two-week test-retest reliability of the measure; this test-retest reliability coefficient was adequate at .82 (Pettit & Joiner, 2001a). Test-retest reliability over a five-week period has also been reported at .40; although smaller, it retained significance (Pettit & Joiner, 2001b).

The FSQ has also shown a significant correlation with a behavioural measure of negative feedback seeking, evidencing concurrent validity (Rehman, Boucher, Duong, & George, 2008). The measure is not significantly associated with the DIRI-RS, providing evidence that each measures separate constructs (Joiner, Alfano, & Metalsky, 1993). Criterion validity of the measure has not been assessed (Pettit & Joiner, 2001b); therefore, the measure is best viewed as assessing not whether participants actively seek negative feedback, but, instead, whether participants desire negative feedback (Joiner, 1995).

As the FSQ assesses desire for feedback in five different domains, it has been argued that internal consistency may not be an appropriate measure of reliability for the FSQ (Joiner, Alfano, & Metalsky, 1993); however, a recent study reported a coefficient alpha of .74 for the measure (Haeffel & Mathew, 2010). A Cronbach's alpha of .65 was found in the present study.

Depressive symptoms. In order to assess severity of depressive symptoms, the Beck Depression Inventory – II (BDI-II) was used (Beck, Steer, & Brown, 1996). This 21-item questionnaire lists statements and asks participants to choose the statement with which they most identify. Under "Past Failure," for example, participants can pick one of several options: (0) I do not feel like a failure; (1) I have failed more than I should have; (2) As I look back, I see a lot of failures; and (3) I feel I am a total failure as a person. Responses to each statement are then summed; total scores can range from 0 to 63, with high scores indicating more depressive symptoms. Item 9 ("Suicidal Thoughts or Wishes") was omitted from the BDI-II for ethical reasons; responses to this item will be replaced by the participant's average score across all other items.

Previous research has found that the BDI-II was significantly positively correlated with other measures of depression, indicating good convergent validity, in addition to possessing good

content validity (Beck et al., 1996). Scores on the BDI-II were also more strongly correlated with scores on the Hamilton Psychiatric Rating Scale for Depression than they were with scores on the Hamilton Rating Scale for Anxiety, each of which was scored with revised procedures (Beck et al., 1996).

The test manual indicates a coefficient alpha of .92 for psychiatric outpatients as well as a significant test-retest correlation of .93 (Beck et al., 1996). A coefficient alpha of .91 has been reported for a sample of Canadian undergraduate students (Dozois, Dobson, & Ahnberg, 1998); furthermore, coefficient alphas of .86 and .85 have been reported for outpatients diagnosed with Major Depressive Disorder and Dysthymic Disorder, respectively (Ball & Steer, 2003). A Cronbach's alpha of .92 was found in the present study; this includes the average of the participant's scores in place of item 9.

Anxious Symptoms. The Beck Anxiety Inventory (BAI) was used as a measure of symptoms of anxiety (Beck & Steer, 1993). This questionnaire also consists of 21 items; each lists a symptom of anxiety, such as "numbness or tingling" or "fear of dying," and asks participants to indicate how much they have been bothered by the symptom within the past week. There are four response options: not at all; mildly; moderately; and severely. These responses are scored on a 4-point scale ranging from 0 to 3; these responses are summed, with a maximum total score of 63 points. Higher scores are indicative are more anxious symptoms (Beck & Steer, 1993).

High internal consistency is reported for the measure, with a coefficient alpha of .92 for psychiatric outpatients, as well as a good test-retest correlation of .75; item-total correlations ranged from .30 to .71 (Beck, Epstein, Brown, & Steer, 1988). BAI scores correlated with Hamilton Anxiety Rating Scale – Revised scores with a correlation of .51, indicating concurrent

validity. To assess construct validity, scores on the BAI were correlated with scores on both the Hamilton Rating Scale for Depression – Revised and the BDI. Their respective correlations were .25 and .41 (Beck et al., 1988); although the correlation with the BDI is moderately high, higher correlations have been reported for other self-report measures of anxiety (Beck et al., 1988; Beck & Steer, 1993). Good discriminant validity was also evidenced in that the BAI could discriminate those with anxious diagnoses from other psychiatric groups (Beck et al., 1988).

More recently, de Ayala, Vonderharr-Carlson, and Kim (2005) conducted a meta-analysis of 47 studies, examining coefficient alpha and test-retest reliability of the BAI. The average coefficient alpha was .91, with test-retest reliability ranging from .35 to .83. The authors suspect that such variability resulted due to the fact that time intervals between administrations ranged from 7 to 112 days. A Cronbach's alpha of .93 was found in the present study.

Self-Esteem. The Rosenberg Self-Esteem Scale (RSES) was used as a measure of self-esteem, or the extent to which one has a favourable opinion of oneself or feels a sense of self-worth (Rosenberg, 1965; Appendix D). This 10-item questionnaire includes such statements as "I take a positive attitude toward myself"; participants are asked to indicate whether they strongly disagree, disagree, agree, or strongly agree with each statement (Rosenberg, 1965). Each response is scored on a 4-point scale with responses ranging from 1 to 4 points; these responses are summed for a maximum total of 40 points, with higher scores indicating greater self-esteem. The scale has a reliability coefficient of .92 and it also exhibits high face validity (Rosenberg, 1965).

A Cronbach alpha of .80 has been shown for Canadian samples, with a Guttman split-half reliability of .79 (Schmitt & Allik, 2005). Previous research has shown that, as a measure of convergent validity, correlations between self-esteem and measures of extraversion and

neuroticism were .40 and -.47, respectively, both of which were significant. To assess discriminant validity, self-esteem was correlated with openness to experience; although significant, the correlation was weak at .19 (Schmitt & Allik, 2005). Furthermore, in a sample of individuals with severe mental disorders, high internal reliability for the RSES was evidenced at four different time points, and test-retest reliability over a two-week period was also high at .87 (Torrey, Mueser, McHugo, & Drake, 2000). A Cronbach's alpha of .86 was found in the present study.

Perceived Rejection. The Acceptability to Others subscale (AoS), designed to assess feelings of being liked and accepted, was used to examine participants' perceived rejection (Fey, 1955; Wrightsman, 1991; Appendix E). The scale consists of five statements, such as "I feel 'left out,' as if people don't want me around," and participants rate how much they agree with the statement. Five responses are available, ranging from 1 (*very rarely*) to 5 (*almost always*); the five scores are then summed, with higher total scores indicative of being perceived as less acceptable to others.

The subscale possesses good internal consistency with a split-half reliability of .89 (Fey, 1955). A more recent study made use of a female outpatient sample with diagnoses of depression, and it found a Cronbach's alpha of .71 for the subscale (Cyranowski et al., 2001). Apart from face validity, there are no data available on the subscale's validity (Wrightsman, 1991). A Cronbach's alpha of .75 was found in the present study.

Social Desirability. The Marlowe-Crowne Social Desirability Scale (MCSDS) will be used as to assess levels of social desirability among participants (Crowne & Marlowe, 1960; Appendix F). As this study employs only self-report questionnaires, this measure will be included so as to ensure that participants are responding to these questionnaires in an open and

honest manner and are not instead trying to present themselves in a more socially acceptable fashion. The MCSDS consists of 33 true or false statements, such as "I never resent being asked to return a favor," or, "I have never intensely disliked anyone." Fifteen of these statements are reverse scored, and one point is given for each "socially acceptable" statement endorsed by participants. As such, scores may range from 0 to 33, with higher scores indicating higher levels of socially desirable responding.

Crowne and Marlowe (1960) reported an internal consistency of .88 for the scale, along with a test-retest correlation of .89 over a period of one month. More recent research, using a sample of appearance-and-performance enhancing drug users, has reported a Kuder-Richardson-20 score of .91 (Hildebrandt, Langenbucher, Lai, Loeb, & Hollander, 2011). In support of the scale's validity, the MCSDS was found to significantly correlate with the Edwards Social Desirability Scale, with a correlation coefficient of .35 (Crowne & Marlowe, 1960). The MCSDS also displayed significant correlations with the MMPI Lie Scale, with a correlation coefficient of .54, and the MMPI K scale, another measure of socially desirable responding, with a correlation coefficient of .40 (Crowne & Marlowe, 1960; Paulhus, 1991). A Cronbach's alpha of .86 was found in the present study.

Participant Classification

Participants were placed in one of four groups: depressed, anxious, mixed depressed-anxious, and other. Group placement depended upon scores on both the BDI-II and the BAI. As discussed earlier, scores on the BDI-II can range from 0 to 63 points (Beck, Steer, & Brown, 1996). According to the BDI-II manual, scores between 0-13 indicate minimal depression, scores between 14-19 indicate mild depression, scores between 20-28 indicate moderate depression, and scores between 29-63 indicate severe depression. Those with a depressive diagnosis in an

outpatient sample scored, on average, in the moderately depressed range, although those with recurring episodes of depression scored, on average, in the severely depressed range (Beck, Steer, & Brown, 1996). In this study, however, a cut score of 14 was used to denote a clinical range of symptoms, as suggested by Seggar, Lambert, and Hansen (2002) in their analysis of how best to use the BDI-II to differentiate between community and clinical samples. Furthermore, a college student sample scored, on average, below 14 on the BDI-II, placing them in the minimally depressed range, and providing further support for the appropriateness of a cutoff of 14 (Beck, Steer, & Brown, 1996). As such, participants with scores of 14 or higher on the BDI-II were considered to be experiencing a clinical level of depressive symptoms.

As stated above, scores on the BAI can range from 0 to 63 points (Beck & Steer, 1993). Scores between 0-7 indicate minimal anxiety, scores between 8-25 indicate mild anxiety, scores between 16-25 indicate moderate levels of anxiety, and scores between 26-63 indicate severe anxiety. Although the 16-25 range is only indicative of "moderate" anxiety, those with diagnoses of social phobia, obsessive-compulsive disorder, and generalized anxiety disorder have been shown to score, on average, within this range. As such, a score of 16 was used as a cutoff such that those with a BAI score at or above 16 were considered to be experiencing a clinical level of anxiety symptoms (Beck & Steer, 1993).

Table 1 summarizes the scores used to place participants into the four symptom groups. Participants who scored at or above 14 on the BDI-II and below 16 on the BAI were placed in the depressed group. Participants who scored both at or above 14 on the BDI and at or above 16 on the BAI were placed in the mixed depressed-anxious group, and those participants with scores below 14 on the BDI and below 16 on the BAI were placed in the other group. There were no

participants in the anxious group, as no one scored both below 14 on the BDI-II and at or above 16 on the BAI.

Data Screening

Prior to data analysis, all cases were rechecked for accuracy of data entry. Missing and incomplete data were handled consistently according to the following procedures. If participants missed one page of a questionnaire, their total score for that questionnaire was treated as missing data. Participants who gave more than one response for an item had their final response entered as the average of the two responses given; this average was rounded up so that, in many cases, this rounding resulted in their higher response being entered. Similarly, if participants decided to enter a "half" response where a "half" response was not a given option, this was rounded up. If participants neglected to answer a particular item, the response that was entered was the average of all given responses; this average was then rounded up. As discussed earlier, as one item was omitted from the BDI-II, it was after all other mean substitutions were made for missed items that a new average was calculated and substituted for the omitted item. A "mean substitution" for missing data is ideal in this study as there was no consistency with respect to the randomness of missing data (i.e., some items were randomly missed while others were not) and as the amount of missing data was small.

Upon entry into SPSS, minimum and maximum values were examined to ensure data had been entered correctly. In addition to age, the following scores were examined for outliers, skewness, and kurtosis: DIRI-RS, FSQ, BDI-II, BAI, RSES, AoS, and MCSDS. Such an examination revealed that the data were relatively normally distributed. The highest skewness statistic appeared for the BAI total, with a skewness of 1.013 (*SE* = .427), and the highest kurtosis statistic appeared for the DIRI-RS, with a kurtosis of -.975 (*SE* = .833). Corresponding z

Table 1

BDI-II and BAI Criteria for Symptom Group Classification

Group	BDI-II score	BAI score
Depressed	≥ 14	< 16
Mixed depressed-anxious	≥ 14	≥ 16
Anxious	< 14	≥ 16
Other	< 14	< 16

scores were then calculated by hand; the highest z score for skewness was found for the BAI total, $z = 2.372$, and the highest z score for kurtosis was found for the DIRI –RS, $z = -1.170$. As such, the data did not need to be transformed according to the recommendations given by Tabachnik and Fidell (2007) who suggest that only those cases with z scores above 3.29 require transformation. Furthermore, the z scores of each case were examined for the following variables: age, DIRI-RS, FSQ, BDI-II, BAI, RSES, AoS, and MCSDS. No participant had a z score above 3.29 for any of these variables.

The relationships between the study measures and social desirability (as measured by the MCSDS) were examined. There was a significant negative correlation between the AoS and MCSDS indicating that individuals responding in a socially desirable way reported lower levels of perceived rejection. Thus, social desirability was controlled for in analyses involving perceived rejection as a variable.

Results

As discussed above, participants were first classified into one of four symptom groups based upon their scores on the BDI-II and the BAI. As two participants did not fully complete the BDI-II, the BAI, or both, only 29 participants could be categorized. Following the criteria previously outlined, 13 participants (44.8%) were placed into the depressed group, 12 (41.4%) were placed in the mixed depressed-anxious group, four (13.8%) were placed in the other group, and none were placed in the anxious group. Analyses were not run to examine differences between those with complete data and those with incomplete data as, again, only two of the 29 participants could not be categorized. Ideally, an examination of those with complete data and those with incomplete data would reveal no systematic or consistent differences between those who filled out all questionnaires and those who did not.

Table 2 displays demographic data for each of the three symptom groups, and Table 3 displays the mental health treatment history for each of these groups, including types of current and past treatment for mood and anxiety disorders. Table 4 further delves into the characteristics of the total sample as well as each symptom group, including mean scores on the study measures. Table 5 provides the ranges of each of the measures for these groups.

A one-way ANOVA revealed that the groups did not significantly differ in age, F (2, 24) = .027, p = .974. Separate chi-square analyses were conducted to determine if the groups differed on any of the categorical demographic variables. None of the groups differed significantly in marital status, education, income, presence of a mental health diagnosis, current treatment of a mood disorder, past treatment of a mood disorder, current treatment of an anxiety disorder, or past treatment of an anxiety disorder. No analysis was performed using ethnicity due to lack of variation in this variable.

With respect to the FSQ, participants in this study were allowed to choose the type of close relationship partner they would hypothetically like to have answer these questions. Of the 30 who responded to this question, 15 participants (50.0%) selected a close friend, 11 (36.7%) selected a romantic partner, one (3.3%) selected a parent, one (3.3%) selected a sibling, and two (6.7%) selected "other" (one individual chose his or her sponsor, while the other chose his or her children). A one-way ANOVA was run to determine if amount of negative feedback seeking differed based upon partner type; this analysis was nonsignificant, F(4, 23) = 1.406, p =.263.

Associations Among Study Variables

Bivariate correlations were examined for the study's variables of interest and are displayed in Table 6. According to Salkind (2000, as cited in Caldwell, 2007), those correlation coefficients between .0 to .2 are interpreted as displaying no relationship to a very weak

Table 2

Demographics of Total Study Sample and of Each Symptom Group (n, %)

Characteristic	Total Sample (n = 31)	Depressed (n = 13)	Mixed Depressed-Anxious (n = 12)	Other (n = 4)
Gender				
Male	7 (22.6%)	4 (30.8%)	1 (8.3%)	1 (25.0%)
Female	24 (77.4%)	9 (69.2%)	11 (91.7%)	3 (75.0%)
Ethnicity				
White	26 (83.9%)	13 (100.0%)	9 (75.0%)	2 (50.0%)
First Nations	2 (6.5%)	0	2 (16.7%)	0
Black	1 (3.2%)	0	1 (8.3%)	0
Other	2 (6.5%)	0	0	2 (50.0%)
Marital status				
Never legally married	9 (29.0%)	4 (30.8%)	4 (33.3%)	1 (25.0%)
Legally married	7 (22.6%)	3 (23.1%)	1 (8.3%)	1 (25.0%)
Separated	5 (16.1%)	3 (23.1%)	0	2 (50.0%)
Divorced	7 (22.6%)	3 (23.1%)	4 (33.3%)	0
Widowed	3 (9.7%)	0	3 (25.0%)	0
Education*				
High school	8 (25.8%)	3 (23.1%)	4 (33.3%)	1 (25.0%)
College/university	19 (61.3%)	7 (53.8%)	7 (58.3%)	3 (75.0%)
Post graduate degree	3 (9.7%)	3 (23.1%)	0	0
Unknown	1 (3.2%)	0	1 (8.3%)	0

Table 2 continued

Characteristic	Total Sample (*n* = 31)	Depressed (*n* = 13)	Mixed Depressed-Anxious (*n* = 12)	Other (*n* = 4)
Total household income				
Below $20 000	12 (38.7%)	2 (15.4%)	8 (66.7%)	1 (25.0%)
$20 001 - $40 000	6 (19.4%)	2 (15.4%)	3 (25.0%)	1 (25.0%)
$40 001 – $60 000	2 (6.5%)	2 (15.4%)	0	0
$60 001 – $80 000	2 (6.5%)	1 (7.7%)	1 (8.3%)	0
$80 001 - $100 000	1 (3.2%)	0	0	1 (25.0%)
$100 001+	5 (16.1%)	3 (23.1)%	0	1 (25.0%)
Unknown	3 (9.7%)	3 (23.1%)	0	0

*Highest level of education completed

Table 3

Mental Health Treatment of Total Study Sample and of Each Symptom Group (n, %)

Treatment Status	Total Sample (*n* = 31)	Depressed (*n* = 13)	Mixed Depressed-Anxious (*n* = 12)	Other (*n* = 4)
Presence of mental health *dx*	15 (48.4%)	4 (30.8%)	9 (75.0%)	2 (50.0%)
Current treatment of a mood disorder				
None	11 (35.5%)	6 (46.2%)	3 (25.0%)	2 (50.0%)
Medication	12 (38.7%)	3 (23.1%)	6 (50.0%)	2 (50.0%)
Psychotherapy/counseling	3 (9.7%)	3 (23.1%)	0	0
Other	0	0	0	0
Combination of medication, psychotherapy/counseling, or other	5 (16.1%)	1 (7.7%)	3 (25.0%)	0
Past treatment of a mood disorder				
None	15 (48.4%)	7 (53.8%)	6 (50.0%)	2 (50.0%)
Medication	8 (25.8%)	3 (23.1%)	4 (33.3%)	0
Psychotherapy/counseling	1 (3.2%)	0	0	1 (25.0%)
Other	0	0	0	0

Table 3 continued

Treatment Status	Total Sample (n = 31)	Depressed (n = 13)	Mixed Depressed-Anxious (n = 12)	Other (n = 4)
Combination of medication, psychotherapy/counseling, or other	7 (22.6%)	3 (23.1%)	2 (16.7%)	1 (25.0%)
Current treatment of an anxiety disorder				
None	18 (58.1%)	7 (53.8%)	7 (58.3%)	3 (75.0%)
Medication	7 (22.6%)	2 (15.4%)	4 (33.3%)	0
Psychotherapy/counseling	4 (12.9%)	3 (23.1%)	0	1 (25.0%)
Other	0	0	0	0
Combination of medication, psychotherapy/counseling, or other	2 (6.5%)	1 (7.7%)	1 (8.3%)	0
Past treatment of an anxiety disorder				
None	23 (74.2%)	9 (69.2%)	8 (66.7%)	4 (100.0%)
Medication	2 (6.5%)	1 (7.7%)	1 (8.3%)	0
Psychotherapy/counseling	2 (6.5%)	1 (7.7%)	1 (8.3%)	0
Other	1 (3.2%)	0	1 (8.3%)	0

Table 3 continued

Treatment Status	Total Sample (n = 31)	Depressed (n = 13)	Mixed Depressed-Anxious (n = 12)	Other (n = 4)
Combination of medication, psychotherapy/counseling, or other	3 (9.7%)	2 (15.4%)	1 (8.3%)	0

Table 4

Means and Standard Deviations of Study Measures for Total Sample and Each Symptom Group, M (SD)

Characteristic	Total Sample (n = 31)	Depressed (n = 13)	Mixed Depressed-Anxious (n = 12)	Other (n = 4)
Age	47.24 (16.62)	47.33 (16.88)	47.91 (19.00)	45.50 (17.21)
BDI-II score	25.31 (12.25)	23.08 (7.23)	33.42 (11.70)	8.25 (4.27)
BAI score	18.10 (12.37)	10.62 (3.04)	28.92 (10.48)	5.75 (5.56)
DIRI score	4.21 (1.17)	4.50 (.99)	4.31 (1.33)	3.21 (1.05)
DIRI-RS score	2.98 (2.24)	2.98 (2.34)	3.66 (2.47)	1.81 (1.01)
FSQ score	3.46 (2.27)	3.69 (2.36)	4.10 (2.03)	2.00 (1.83)
RSES score	26.07 (6.05)	25.67 (4.72)	24.00 (6.76)	33.25 (2.50)
AoS score	14.30 (4.62)	14.00 (3.63)	16.25 (4.75)	8.50 (2.38)
MCSDS	17.81 (6.44)	18.31 (5.48)	16.92 (7.63)	18.25 (6.55)

Note. BDI-II = Beck Depression Inventory – II, BAI = Beck Anxiety Inventory, DIRI-RS = Depressive Interpersonal Relationships Inventory – Reassurance Seeking Subscale, FSQ = Feedback Seeking Questionnaire, RSES = Rosenberg Self-Esteem Scale, AoS = Acceptability to Others Subscale, and MCSDS = Marlowe-Crowne Social Desirability Scale.

Table 5

Ranges of Study Measures for Total Sample and Each Symptom Group

Measure	Total Sample (n = 31)	Depressed (n = 13)	Mixed Depressed-Anxious (n = 12)	Other (n = 4)
BDI-II	3 – 49	14 – 35	14 – 49	3 – 13
BAI	2 – 48	6 – 15	19 – 48	2 – 14
DIRI	1.75 – 6.08	3.04 – 6.08	2.38 – 6.08	1.75 – 4.25
DIRI-RS	1.00 – 7.00	1.00 – 6.75	1.00 – 7.00	1.00 – 3.25
FSQ	0 – 8	0 – 8	0 – 7	0 – 4
RSES	17 – 39	18 – 33	17 – 39	30 – 36
AoS	7 – 22	8 – 22	9 – 22	7 – 12
MCSDS	1 – 29	10 – 26	1 – 29	10 – 24

Table 6

Correlations Among Study Variables

	1	2	3	4	5	6	7	8
1. DIRI	--							
2. DIRI-RS	. 854**	--						
3. FSQ	.140	.139	--					
4. BDI-II	.391*	.443*	.319	--				
5. BAI	-.015	.081	.052	.635**	--			
6. RSES	-.495**	-.467*	-.455*	-.728**	-.222	--		
7. AoS	.509**	.589**	.241	.636**	.481**	-.498**	--	
8. MCSDS	-.306	-.332	.086	-.264	-.151	.364	-.400*	--

*Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

association; those between .2 to .4 display a weak association; those between .4 to .6 display a moderate association; those between .6 to .8 display a strong association; and those between .9 to 1.0 display a very strong to a perfect association. Keeping in line with this classification, several significant correlations were indicated, including a strong positive correlation between scores on the depression and anxiety measures.

As expected, negative feedback seeking scores showed a significant moderate negative correlation with self-esteem scores. Negative feedback seeking was not correlated with the depression, anxiety, or reassurance seeking measures, a finding that differs from most previous research.

On the other hand, excessive reassurance seeking scores were positively and moderately correlated with depressive symptoms, but these scores were not significantly correlated with anxious symptoms. Excessive reassurance seeking scores also had significant moderate correlations with self-esteem and perceived rejection scores, such that excessive reassurance seeking was negatively associated with self-esteem and positively associated with perceived rejection. Similarly, scores on the overall DIRI displayed the same significant associations as did the DIRI-RS, including a weak positive association with depressive symptoms and a moderate positive association with perceived rejection, as well as a moderate negative association with self-esteem. Overall depressive interpersonal behaviours were also significantly and very strongly positively correlated with excessive reassurance seeking. These findings are in keeping with those discussed in the literature review.

Perceived rejection was also significantly correlated with scores on the depression, anxiety, and self-esteem measures. Perceived rejection increased as depression and anxiety increased and self-esteem decreased. The correlations with anxiety and self-esteem were

moderate in strength, whereas the correlation with depression was strong. Finally, self-esteem scores were significantly – and strongly negatively – correlated with depression scores (Salkind, 2000, as cited in Caldwell, 2007). These findings are in keeping with most of the previous literature discussed in the introductory section.

Hypothesis I: Relationships Between Depressive Symptoms, Excessive Reassurance Seeking, and Negative Feedback Seeking

The study's first hypothesis predicted that those with higher levels of depressive symptoms would engage in both higher levels of excessive reassurance seeking and negative feedback seeking; correlational analyses provided support for the former association but not for the latter (Table 6). In other words, as depression scores increased, scores on the excessive reassurance seeking measure also increased, $r = .443$, $p < .01$. Thus, Hypothesis I was only partially supported.

Hypothesis II: The Mediating Role of Perceived Rejection

The second hypothesis stated that the associations between excessive reassurance seeking, negative feedback seeking, and depressive symptoms would be mediated by perceived interpersonal rejection. To test this hypothesis, a series of four regression analyses were performed according to the steps outlined by Kenny (2012): the first examined if scores on the DIRI-RS and on the FSQ predict scores on the BDI; the second and third examined if scores on the DIRI-RS and on the FSQ predict scores on the AoS; and the fourth examined if scores on both the DIRI-RS and the FSQ predict scores on the BDI beyond that which is predicted by AoS scores. Due to the significant negative correlation between socially desirable responding and perceived rejection, those regression analyses that used AoS as a predictor variable first controlled for scores on the MCSDS by entering the MCSDS into the first step of the analyses.

Results of these analyses are displayed in Table 7. The first analysis was performed to demonstrate a relationship between the predictors (excessive reassurance seeking and negative feedback seeking) and dependent variable (depression scores). This model was significant, although, as can be seen, it was the DIRI-RS that significantly predicted scores on the BDI-II and not the FSQ.

The second regression analysis was performed to demonstrate a relationship between the first predictor variable (excessive reassurance seeking) and perceived rejection (mediator) while controlling for socially desirable responding. The first model, with only MCSDS entered at the first step, was not significant; the second step, which saw the entry of DIRI-RS scores, was significant, R^2 change = .247, $F(1, 26) = 10.018$, $p < .01$.

The third regression analysis was performed to demonstrate a relationship between the second predictor variable (negative feedback seeking) and perceived rejection (mediator) while controlling for socially desirable responding. Neither the first nor second model was significant; upon entry of the FSQ at the second step, R^2 change = .090, $F(1, 25) = 2.502$, $p = .126$.

Based upon the results of these initial analyses, together with the demonstrated absence of an association between negative feedback seeking and depressive symptoms in this sample, the FSQ was excluded from the final regression analysis examining interpersonal rejection as a mediator. This fourth sequential multiple regression analysis was run to determine if scores on the DIRI-RS contributed additional predictive variance to BDI-II scores beyond that which could be accounted for by the AoS while controlling for socially desirable responding (MCSDS scores). The first model, with only MCSDS entered at the first step, was not significant. The second model, which saw the entry of the AoS, was significant, with an R^2 change of .335, $F(1, 25) = 14.049$, $p < .01$. As such, AoS was a significant predictor of scores on the BDI-II. After the

Table 7

Interpersonal Rejection as Mediator: Regression Analyses and Statistics

Predictors	*b*	*B*	*t*	*p*	R^2	Adj. R^2	*F*	*df*	*p*
1. Overall model					.264	.202	4.295	2, 24	.025
DIRI-RS	2.219	.406	2.298	.031					
FSQ	1.416	.262	1.482	.151					
2. Overall model: Step one					.111	.078	3.355	1, 27	.078
MCSDS	-.116	-.332	-1.832	.078					
Overall model: Step two					.358	.309	7.247	2, 26	.003
MCSDS	-.040	-.116	-.674	.506					
DIRI-RS	.264	.543	3.165	.004					
3. Overall model: Step one					.007	-.031	.194	1, 26	.663
MCSDS	.030	.086	.440	.663					
Overall model: Step two					.098	.026	1.354	2, 25	.277
MCSDS	.076	.217	1.047	.305					
FSQ	.161	.328	1.582	.126					

Table 7 continued

Predictors	*b*	*B*	*t*	*p*	R^2	Adj. R^2	*F*	*df*	*p*
4. Overall model: Step one					.070	.034	1.952	1, 26	.174
MCSDS	-.503	-.264	-1.397	.174					
Overall model: Step two					.404	.357	8.491	2, 25	.002
MCSDS	-.023	-.012	-.071	.944					
AoS	1.675	.631	3.748	.001					
Overall model: Step three					.412	.338	5.595	3, 24	.005
MCSDS	.000	.000	.001	.999					
AoS	1.524	.574	2.856	.009					
DIRI-RS	.573	.105	.537	.596					

Note. All regression analyses testing the mediational role of AoS are included here, and the dependent variables for these analyses are therefore denoted by a number, such that: 1. DV = BDI-II; 2. DV = AoS; 3. DV = AoS; and 4. DV = BDI.

third step, with the DIRI-RS entered, the model remained significant; however, R^2 change = .007, $F(1, 24) = .288$, $p = .596$. As such, although the third model was still significant, the addition of the DIRI-RS did not significantly contribute to the model's ability to predict scores on the BDI-II. An examination of the unstandardized regression weights revealed that scores on the AoS were the only significant predictor of scores on the BDI-II. Thus, Hypothesis II was partially supported in that AoS fully mediated the relationship between DIRI-RS and BDI-II scores.

Hypothesis III: Specificity of Negative Interpersonal Behaviors to Depression

The study's third hypothesis predicted that excessive reassurance seeking and negative feedback seeking would demonstrate specificity to depression. As there were no participants who met criteria for the anxious group (i.e., scoring at or above 14 on the BAI and below 16 on the BDI-II), the specificity hypothesis could not be tested. However, two separate one-way ANOVAs were conducted to determine if the depressed, mixed depressed-anxious, and other groups differed in scores on the DIRI-RS and the FSQ. The groups did not significantly differ in negative feedback seeking, $F(2, 24) = 1.356$, $p = .277$, nor did they differ in excessive reassurance-seeking, $F(2, 25) = .980$, $p = .389$.

Exploratory Analyses: Self-Esteem

Exploratory analyses also examined the role of self-esteem in these associations. As the Joiner, Alfano, and Metalsky (1992) study found that, for males, self-esteem interacted with depressive symptoms and reassurance seeking to predict rejection, this study examined the moderating effects of self-esteem. To do so, a sequential multiple regression analysis was employed that made use of three two-way interaction terms (FSQ x RSES, DIRI-RS x RSES, and AoS x RSES) to predict BDI-II depressive symptoms. As a minimum of five participants has

been suggested for every one predictor (J. Jamieson, personal communication, November 2, 2012), and as the study has a very small sample size, a separate sequential regression analysis was run for each interaction term. As was done with the regression analyses above, MCSDS scores were entered into the first step so as to control for socially desirable responding. Tables 8, 9, and 10 display the results of these analyses.

In the first step of each of these analyses, the MCSDS was entered as a control variable, and in the second step of each of these analyses, the AoS, FSQ, and DIRI-RS were entered as predictors. The third step saw the addition of the RSES as a predictor, and in the fourth step an interaction term was added as a predictor. Due to high collinearity, all predictor variables (including MCSDS scores) were centred around the mean, and subsequent interaction terms were calculated using these centred variables. The FSQ was retained in these analyses as, in performing a moderation analysis, a relationship between an independent and a dependent variable (i.e., between negative feedback seeking and depressive symptoms) need not be displayed in order to find a significant interaction effect (Louis, 2009). This is because a relationship between an independent and a dependent variable may not be seen depending upon the presence or absence of a moderating variable (Louis, 2009).

The first analysis, summarized in Table 8, used the "FSQ*RSES" interaction term. The model was not significant after step one. The model was significant after step two, R^2 change = .372, $F(3, 21) = 4.669$, $p < .05$; however, only the AoS significantly predicted scores on the BDI-II. After step three, with RSES entered as a predictor, R^2 change was .199, $F(1, 20) = 11.063$, $p < .01$. At this step, both AoS and RSES scores significantly predicted scores on the BDI-II. After step four, with the FSQ*RSES interaction term included, R^2 change was nonsignificant, suggesting that self-esteem did not moderate the association between negative feedback seeking

and depressive symptoms. Although the model was significant at all of the last three steps, only the AoS and the RSES remained significant predictors of depression scores.

The second analysis, summarized in Table 9, used the "DIRI-RS*RSES" interaction term. The model was not significant after step one. At step two, perceived rejection predicted depression scores while negative feedback seeking and excessive reassurance seeking did not, R^2 change = .372, $F(3, 22) = 4.891$, $p < .01$. At step three, self-esteem scores significantly predicted depression scores and improved the model, R^2 change = .199, $F(1, 21) = 11.617$, $p < .01$. Inclusion of the interaction term in step four did not significantly improve the model. Thus, self-esteem did not moderate the relationship between excessive reassurance seeking and depression scores. Perceived rejection and self-esteem were significant independent predictors of depression scores.

The third analysis, summarized in Table 10, used the "AoS*RSES" interaction term. The model was not significant after step one. The model was significant after step two, R^2 change = .372, $F(3, 22) = 4.891$, $p < .01$; only the AoS significantly predicted scores on the BDI-II. After step three, with RSES entered as a predictor, R^2 change was .199, $F(1, 21) = 11.617$, $p < .01$; this is the same as what was seen with the DIRI-RS*RSES term and, again, both AoS and RSES score significantly predicted scores on the BDI-II at this step. Inclusion of the interaction term in step four did not significantly improve the model, meaning that self-esteem did not moderate the relationship between perceived rejection and depression scores.

Exploratory Analyses: Gender

Although the researchers had also planned to run the above analyses separately for males and females to determine if the associations between excessive reassurance seeking, negative feedback seeing, depression, and perceived rejection would differ by gender, only six of the 29

Table 8

Self-Esteem as Moderator: Regression Analyses and Statistics for the Interaction Between FSQ and RSES Scores

Predictors	*b*	*β*	*t*	*p*	R^2	Adj. R^2	*F*	*df*	*p*
1. Overall model: Step one					.070	.031	1.802	1, 24	.192
MCSDS	-.503	-.264	-1.342	.192					
2. Overall model: Step two					.442	.336	4.159	4, 21	.012
MCSDS	-.077	-.040	-.220	.828					
FSQ	.992	.184	1.070	.297					
DIRI-RS	.544	.100	.490	.629					
AoS	1.371	.517	2.392	.026					
3. Overall model: Step three					.641	.551	7.134	5, 20	.001
MCSDS	.223	.117	.743	.466					
FSQ	-.349	-.065	-.404	.690					
DIRI-RS	-.220	-.040	-.234	.818					
AoS	1.110	.418	2.323	.031					
RSES	-1.236	-.610	-3.326	.003					

Table 8 continued

Predictors	*b*	*β*	*t*	*p*	R^2	Adj. R^2	*F*	*df*	*p*
4. Overall model: Step four					.643	.531	5.711	6, 19	.002
MCSDS	.195	.103	.617	.545					
FSQ	-.422	-.078	-.467	.646					
DIRI-RS	-.321	-.059	-.321	.752					
AoS	1.142	.430	2.302	.033					
RSES	-1.263	-.624	-3.264	.004					
FSQ*RSES	-.051	-.057	-.369	.716					

Table 9

Self-Esteem as Moderator: Regression Analyses and Statistics for the Interaction Between DIRI-RS and RSES Scores

Predictors	*b*	*β*	*T*	*p*	R^2	Adj. R^2	*F*	*df*	*p*
1. Overall model: Step one					.070	.033	1.877	1, 25	.183
MCSDS	-.503	-.264	-1.370	.183					
2. Overall model: Step two					.442	.341	4.357	4, 22	.010
MCSDS	-.077	-.040	-.225	.824					
FSQ	.992	.184	1.096	.285					
DIRI-RS	.544	.100	.501	.621					
AoS	1.371	.517	2.448	.023					
3. Overall model: Step three					.641	.555	7.490	5, 21	.000
MCSDS	.223	.117	.761	.455					
FSQ	-.349	-.065	-.414	.683					
DIRI-RS	-.220	-.040	-.239	.813					
AoS	1.110	.418	2.381	.027					
RSES	-1.236	-.610	-3.408	.003					

Table 9 continued

Predictors	*b*	*β*	*T*	*p*	R^2	Adj. R^2	*F*	*df*	*p*
4. Overall model: Step four					.676	.578	6.946	6, 20	.000
MCSDS	.166	.087	.575	.572					
FSQ	-.252	-.047	-.307	.762					
DIRI-RS	-.048	-.009	-.054	.958					
AoS	1.220	.460	2.651	.015					
RSES	-1.175	-.580	-3.307	.004					
DIRI-RS*RSES	.181	.200	1.469	.157					

Table 10

Self-Esteem as Moderator: Regression Analyses and Statistics for the Interaction Between AoS and RSES Scores

Predictors	*b*	*β*	*t*	*p*	R^2	Adj. R^2	*F*	*df*	*p*
1. Overall model: Step one					.070	.033	1.877	1, 25	.183
MCSDS	-.503	-.264	-1.370	.183					
2. Overall model: Step two					.442	.341	4.357	4, 22	.010
MCSDS	-.077	-.040	-.225	.824					
FSQ	.992	.184	1.096	.285					
DIRI-RS	.544	.100	.501	.621					
AoS	1.371	.517	2.448	.023					
3. Overall model: Step three					.641	.555	7.490	5, 21	.000
MCSDS	.223	.117	.761	.455					
FSQ	-.349	-.065	-.414	.683					
DIRI-RS	-.220	-.040	-.239	.813					
AoS	1.110	.418	2.381	.027					
RSES	-1.236	-.610	-3.048	.003					

Table 10 continued

Predictors	*b*	*β*	*t*	*p*	R^2	Adj. R^2	*F*	*df*	*p*
4. Overall model: Step four					.655	.552	6.335	6, 20	.001
MCSDS	.172	.090	.574	.572					
FSQ	-.415	-.077	-.489	.630					
DIRI-RS	.046	.008	.047	.963					
AoS	1.063	.401	2.256	.035					
RSES	-1.198	-.592	-3.273	.004					
AoS*RSES	.058	.131	.917	.370					

participants that could be placed into a symptom group were male. These analyses were therefore not performed.

Discussion

This project set out to further clarify the associations between excessive reassurance seeking, negative feedback seeking, perceived rejection, and depressive symptoms in a clinical Canadian sample. It was predicted that those with higher levels of depressive symptoms would display higher levels of excessive reassurance seeking and negative feedback seeking; correlational analyses did show an association between excessive reassurance seeking and depressive symptoms, such that higher levels of excessive reassurance seeking were related to higher levels of depressive symptoms. However, we were unable to demonstrate that these behaviours are specific to depression, as we did not have any participants in a "pure" anxiety group. Analysis of variance demonstrated that participants in the depressed, mixed depressed-anxious, and "other" groups had similar excessive reassurance seeking and negative feedback seeking scores. The authors also predicted that perceived interpersonal rejection would mediate these relations, and evidence was found to support this idea, but only for excessive reassurance seeking. Perceived interpersonal rejection perfectly mediated the relationship between excessive reassurance seeking and depression scores. With respect to the exploratory analyses pertaining to self-esteem, no evidence was found to support the idea that self-esteem moderated the associations between excessive reassurance seeking, negative feedback seeking, and depressive symptoms.

There were certain hypotheses that were unable to be tested with this project. For instance, as no participants placed in the "pure" anxious group, the study's third hypothesis regarding specificity to depression was unable to be tested. As certain anxiety disorders

frequently co-occur with Major Depressive Disorder, it is not surprising that there were no purely anxious participants (APA, 2000). In a study of 968 participants with current principal anxiety or mood diagnoses, Brown, Campbell, Lehman, Grisham, and Mancill (2001) found that "… current and lifetime comorbidity with other Axis I disorders was 57% and 81%, respectively; current and lifetime comorbidity with other anxiety or mood disorders was 55% and 76%, respectively" (p. 594). As such, it happens more often than not that individuals with an anxiety diagnosis do not solely experience a single anxiety disorder, which may explain why those with higher levels of anxious symptoms in the current study were classified as mixed depressed-anxious as opposed to purely anxious. Unfortunately, the current study's small sample size also limited the types of analyses that could be performed, thereby leaving some of the researchers' questions unanswered. Of the 29 participants that could be placed into symptom groups, only six of these were male; therefore, exploratory analyses regarding the role of gender could not be undertaken.

Hypothesis I: Relationships Between Depressive Symptoms, Excessive Reassurance Seeking, and Negative Feedback Seeking, and Additional Associations Among Study Variables

The preliminary examination of the correlations between variables revealed that several correlations expected to be significant were, in fact, nonsignificant (e.g., the FSQ and the BDI-II, and the FSQ and the AoS). The lack of an association between negative feedback seeking and depression scores contradicts the researchers' first hypothesis in addition to the findings of several other studies (e.g., Rehman, Boucher, Duong, & George, 2008; Giesler, Josephs, & Swann, 1996; Swann, Wenzlaff, Krull, & Pelham, 1992; Swann, Wenzlaff, & Tafarodi, 1992). Similarly, that no association existed between negative feedback seeking and perceived rejection

contradicts previous research that found associations between negative feedback seeking and roommates' desire to end the roommate relationship (Swann, Wenzlaff, Krull, & Pelham, 1992, Study 3). The fact that negative feedback seeking and the excessive reassurance seeking did not significantly correlate does support the literature that suggests these behaviours are independent of one another.

There may be several reasons for the lack of an association between negative feedback seeking and depression or perceived rejection scores. The small sample size – and resultant lack of statistical power – may have prevented the researchers from finding such an association. Additionally, for the most part, participants did not score highly on this measure; as can be seen in Table A4, the mixed depressed-anxious group had a mean of 4.10 on the FSQ – this was the highest mean FSQ score of the three symptom groups. As such, it could be that participants lacked a genuine interest in receiving negative information about themselves. Furthermore, 20 of the study's 31 participants were also currently receiving some form of treatment for a mood disorder. As information was not collected as to how long participants had been receiving such treatment, it could be that these participants had already begun to address some of these negative feedback seeking tendencies by perhaps placing an emphasis on reshaping self-views to reflect both realistic and positive elements of the self. It could also be the case that participants do, in actuality, engage in negative feedback seeking, but that the FSQ did not pick up on these behaviours. As documented above, criterion validity has not been well assessed with this measure.

Those correlations that were significant, however, were in the expected directions based upon past research. For instance, research has supported an association between excessive reassurance seeking and depressive symptoms (e.g., Davila, 2001; Joiner & Metalsky, 2001,

Study 3; Starr & Davila, 2008), a finding that was replicated in the present study and that was consonant with the researchers' expectations (Hypothesis I). Starr and Davila (2008) did find a weaker association between excessive reassurance seeking and depressive symptoms in clinical samples as compared to community samples; it could be that a larger correlation would be found had a control group been included in the study. In keeping with previous research, excessive reassurance seeking has also been shown to predict interpersonal rejection (e.g., Starr & Davila, 2008). Similarly, negative feedback seeking has previously been associated with self-esteem (Pettit & Joiner, 2001b; Weinstock & Whisman, 2004).

Interestingly, there was a significant negative correlation of weak to moderate strength between socially desirable responding and perceived rejection, such that those who responded in a more socially desirable way reported less rejection. Although the current study treated socially desirable responding as a confound, future research may want to investigate how these interpersonal behaviours are associated with socially desirable responding as a variable in its own right.

The study's first hypothesis predicted that those individuals with higher levels of depressive symptoms would engage in both higher levels of excessive reassurance seeking and negative feedback seeking, and an examination of the associations between study variables therefore found partial support for the study's first hypothesis. Although excessive reassurance seeking showed an association with depressive symptoms, negative feedback seeking did not.

Hypothesis II: The Mediating Role of Perceived Rejection

The current study found evidence to support the idea that perceived interpersonal rejection mediates the association between excessive reassurance seeking and depressive symptoms; after scores on the AoS were entered into a multiple regression analysis, the addition

of the DIRI-RS scores did not significantly contribute to the model. Furthermore, the regression weights were positive in nature, suggesting that with increases in perceived rejection came increases in depressive symptoms. This finding therefore supports previous research that excessive reassurance seeking predicted rejection (Starr & Davila, 2008). This finding is also keeping in line with the idea of the relation between excessive reassurance seeking and depressive symptoms as an indirect relation, such that it has been found to be mediated by several other variables, including such things as self-esteem certainty (Luxton & Wenzlaff, 2005), a ruminative response style (Weinstock & Whisman, 2007), and conflict stress (Eberhart & Hammen, 2010). Indeed, the present study found in its exploratory analyses that both perceived rejection and self-esteem were significant independent predictors of depression scores.

More relevant, however, is the study by Hartley, Hayes Lickel, and MacLean (2008); in their study that examined depression in individuals with a mild intellectual disability and their caregivers, caregiver assessments revealed an association between excessive reassurance seeking and depressive symptoms, and this was partially mediated by the interpersonal rejection of caregivers. Although the current study found that interpersonal rejection fully mediated the association between excessive reassurance seeking and depression, partial mediation may have been found by Hartley, Hayes Lickel, and MacLean (2008) because they examined caregiver assessments and because interpersonal rejection was only measured through these caregiver assessments; the study did not examine the perceived rejection of those individuals for whom the caregivers worked. When examining the individuals for whom the caregivers worked, the researchers looked at their negative social experiences, which also partially mediated the association between reassurance seeking and depressive symptoms; however, negative social experiences is a similar albeit separate construct from rejection. Apart from relying on caregiver

assessments to examine rejection, this study differed in composition of the participant sample, as Hartley, Hayes Lickel, and MacLean (2008) examined individuals with a mild intellectual disability.

The current finding that rejection mediates the association between excessive reassurance seeking and depressive symptoms is also in alignment with the results of Haeffel, Voelz, and Joiner (2007), who found an interaction effect such that those high in excessive reassurance seeking developed more depressive symptoms only if there were decreases in perceived social support. As such, future research should continue to examine interpersonal rejection as a mediator of the association between excessive reassurance seeking and depressive symptoms in order to provide further support for its playing a mediational role. Similarly, interpersonal rejection should be examined as a mediator of the association between negative feedback seeking and depressive symptoms in future research that employs a larger clinical sample size than does the current study. A study with such a larger sample size could also employ a Sobel test to confirm that interpersonal rejection does fully mediate the association between excessive reassurance seeking and depressive symptoms; such a test could not be employed in the current study due to small sample size.

With respect to the clinical implications of such a finding, excessive reassurance seeking could potentially be viewed here as a risk factor for depression, or, if the individual is already depressed and then comes to engage in excessive reassurance seeking, such a behaviour could help to maintain the individual's disorder. Longitudinal research could help to clarify the sequence of these behaviours.

Hypothesis III: Specificity of Negative Interpersonal Behaviors to Depression

The one-way ANOVAs that examined differences in DIRI-RS and FSQ scores based upon group membership failed to achieve significance, meaning the depressed, mixed depressed-anxious, and other groups had similar excessive reassurance seeking and negative feedback seeking scores. It is likely that the study's small sample size impacted this finding as, again, most participants were in the depressed or mixed groups, with only four individuals comprising the other group. Should the study's sample size have been larger and therefore included more participants in all four groups, it is believed that those in the depressed and mixed depressed-anxious groups would show the highest scores on the FSQ and the DIRI-RS, as hypothesized based on past research. In this study, however, group membership was such that 25 of 29 classifiable participants scored above the cut-off for having a high level of depressive symptoms. Perhaps had a control group been used – recruiting from the community or from a university student population – these comparisons may have been more meaningful and may have provided the results expected based on past research. Unlike the current study's "other" group, such a control group would consist entirely of individuals who had not been referred for mental health treatment and who are without mental health diagnoses. This control group could have provided a larger group of individuals who would presumably score lower on both the BDI-II and the BAI, allowing for a more powerful comparison of DIRI-RS and FSQ scores between groups.

Furthermore, no such differences may have been seen in interest in negative feedback – and no association seen between interest in negative feedback and depressive symptoms – as scores on the FSQ could have been impacted by allowing participants to choose different types of relationship partners to have answered these questions about them. For instance, Swann, De La Ronde, and Hixon (1994) found that those in dating relationships wanted to be seen in a

positive light regardless of whether they held positive or negative self-concepts, whereas those who were married preferred more self-verifying feedback. Although an ANOVA was performed to ensure that FSQ scores did not differ based upon type of relationship partner selected – thereby contradicting the findings of Swann, De La Ronde, and Hixon (1994) – it may be that the sample size is too small, and each type of "relationship partner group" too small, to have found a difference that may have otherwise been significant with a larger sample (Swann, De La Ronde, and Hixon had a sample that consisted of 90 married couples and 95 dating couples before omitting nine couples during data screening). Furthermore, the current study did not allow for a distinction between types of romantic partners (i.e., dating vs. married/common-law) as did Swann, De La Ronde, and Hixon (1994), nor did the current study examine such variables as quality of the "close" relationship or length of time the individual knew his or her relationship partner. For instance, when Joiner, Katz, and Lew (1997) examined negative feedback seeking in youth, they found that the association between interest in negative feedback and peer rejection was moderated by the length of the relationship, such that an association existed between negative feedback seeking and peer rejection among those peers who had known each other for a week or more, but to for those who had known each other less than a week.

Exploratory Analyses: Self-Esteem and Gender

No support was found for self-esteem as a moderator of the associations between excessive reassurance seeking, negative feedback seeking, perceived rejection, and depressive symptoms. Previous studies had found associations between excessive reassurance seeking, negative feedback seeking, and depressive symptoms, including this one (Pettit & Joiner, 2001b; Weinstock & Whisman, 2004); however, that this study found no evidence for self-esteem as a moderator contradicts the finding of Joiner, Alfano, and Metalsky (1992), who found that, for

males, the interaction between excessive reassurance seeking and depressive symptoms among those with low self-esteem predicted rejection - this was not found for females. As their findings differed considerably for males and females, they, too, ran their analyses separately for each.

In the current study, perceived rejection remained a significant contributor to the model's ability to predict BDI-II scores after all three steps of each multiple regression analysis were performed; interestingly, self-esteem by itself was also a significant contributor to the model after all three steps were performed. The regression weights for perceived rejection were positive, again suggesting that with increases in perceived rejection came increases in depressive symptoms, whereas the regression weights for self-esteem were negative, suggesting that with decreases in self-esteem came increases in depressive symptoms. This suggests that self-esteem could act as another mediator and that further models of excessive reassurance seeking, negative feedback seeking, perceived rejection, and depressive symptoms may want to explore a multiple mediation model, perhaps with the use of structural equation modeling. Future research should continue to examine the role of self-esteem in order to determine what role it plays and, if applicable, under what conditions it plays this role. Due to a small sample size, we were unable to test differences between males and females as planned.

Implications for an Integrated Model

As discussed in the literature review, previous research has lent some support to the Joiner, Alfano, and Metalsky (1993) integrative model of excessive reassurance seeking, negative feedback seeking, and depression. For instance, the interaction of excessive reassurance seeking, negative feedback seeking, and depressive symptoms predicted later negative evaluation by participants' roommates (Joiner, Alfano, & Metalsky, 1993). This interaction was maintained after accounting for the interaction between depressive symptoms, reassurance seeking, and self-

esteem. Among pairs of male roommates, depressed males high in both excessive reassurance seeking and negative feedback seeking experienced increases in rejection over time, although this was not found for pairs of female roommates (Joiner & Metalsky, 1995). Additionally, in a study of this model in heterosexual women, an interaction effect was found, such that women's levels of depressive symptoms, excessive reassurance seeking, and negative feedback seeking predicted their male partners' satisfaction with their relationships; this supports the idea that excessive reassurance seeking, negative feedback seeking, and depression are associated with problematic interpersonal relations, although partner evaluation did not mediate the association between the interaction and men's relationship satisfaction (Katz & Beach, 1997).

As the current study did not find an association between negative feedback seeking and interpersonal rejection, or between negative feedback seeking and depressive symptoms, this study only lends further credence to that part of the model dealing with excessive reassurance seeking, supporting the idea that excessive reassurance seeking and depression are related. The current study also found evidence for interpersonal rejection as a mediator of the association between excessive reassurance seeking and depressive symptoms. It is recommended that these variables continue to be studied in larger sample sizes so as to further clarify the nature of these associations. Furthermore, as discussed earlier, while the current project was undergoing ethical review and pursuing data collection, new literature emerged that may have implications for an integrated model, including another model put forth by Evraire and Dozois (2011) that looked at early core belief systems reflecting either security or insecurity in relationships in addition to core belief systems about the self. Although all of the constructs mentioned in this model were not examined in the current study (i.e., early core-beliefs reflecting either security or insecurity in relationships), this model also acknowledges the associations between excessive reassurance

seeking, negative feedback seeking, interpersonal rejection, and depression. As such, this study does again support the existence of some of these associations, including that which exists between excessive reassurance seeking and depression; it also acknowledges a role played by rejection.

Future research may certainly continue to examine support for such a model by examining attachment styles or early core-beliefs reflecting security or insecurity in relationships. The researchers themselves also suggest several additional areas of future investigation, including the examination of both excessive reassurance seeking and negative feedback seeking "… across both global and specific self-views" (Evraire & Dozois, 2011, p. 1301). In addition, "… the literature does not include any normative data on reassurance seeking. Without such norms, it remains unclear when [excessive reassurance seeking] becomes excessive or what "excessive" really means" (p. 1295) – "excessive," for instance, could be defined in terms of negative psychological or social consequences or degree and frequency of the behaviour. Moreover, they mentioned an interest in "… how the interpersonal causes and consequences of depression change as symptoms become more severe," (p. 1301) pointing out that, eventually, individuals may not engage in excessive reassurance seeking or negative feedback seeking as they may no longer have the opportunity to do so.

In addition to belief systems, there are, certainly, other constructs that could be considered in developing a more inclusive integrative model, including relational certainty as well as the interpersonal context in which individuals engage in excessive reassurance seeking and negative feedback seeking (Knobloch, Knobloch-Fedders, & Durbin, 2011). Relational certainty may be especially relevant when considering negative feedback seeking in particular. Knobloch, Knobloch-Fedders, and Durbin (2011) also suggested "… that the theory should be

extended to encompass interdependence between dyad members" and "… that incorporating relational uncertainty would bolster the theory's explanatory power" (p. 457).

As such, several other variables have been put forth for consideration in an integrated model. Furthermore, as discussed in the literature above, the association between excessive reassurance seeking and depressive symptoms is mediated by several different variables. How do these variables fit into an integrative model of excessive reassurance seeking, negative feedback seeking, and depressive symptoms? Do they fit into this model at all? If yes, at what point does an integrated model become too inclusive? There are several questions remaining about what an integrated model of excessive reassurance seeking, negative feedback seeking, and depressive symptoms should look like, and these associations need to be further clarified.

Specificity to Depression and Alternate Conceptualizations of Excessive Reassurance Seeking

As discussed, this study was unable to test specificity of excessive reassurance seeking and negative feedback seeking to depression due to the lack of a purely "anxious" group. It was predicted that these behaviours would be specific to depression based on past research (e.g., Joiner, 1995; Joiner, Katz, & Lew, 1999; Joiner & Metalsky, 1995; Joiner, Metalsky, Gencoz, & Gencoz, 2001; Joiner & Schmidt, 1998). Neither scores on the DIRI-RS nor scores on the FSQ correlated with scores on the BAI in the current study, which suggests a lack of association between these behaviours and anxious symptoms.

However, the studies discussed in the literature review – as well as the current study – are anchored in depression theory and research. As it pertains to excessive reassurance seeking and to the DIRI-RS, such a lack of association with anxious symptoms may be due to how excessive reassurance seeking was conceptualized and therefore assessed in these studies. Within the

anxiety literature, excessive reassurance seeking is defined differently and includes a wider range of behaviours. According to Parrish and Radomsky (2010), within the context of anxiety disorders, excessive reassurance seeking "… may be more broadly defined as the repeated solicitation of safety-related information from others about a threatening object, situation or interpersonal characteristic, despite having already received the information" (p. 211). As such, excessive reassurance seeking as it has been described within the depression literature – as a behavior wherein individuals seek to reassure themselves that they are loveable and worthy – has been referred to as "depressive reassurance seeking" (Cougle et al., 2012).

Several different conceptualizations have been offered that are specific to certain types of anxiety disorders. For instance, Salkovskis (1985, 1999) offers a description of reassurance seeking in OCD (such as attempting to persuade someone that the door is actually looked) as a form of "neutralizing" intended to reduce intrusive thoughts "… and decrease or discharge the responsibility which is perceived to be associated with them" (1999, p. S32). In his cognitive theory of compulsive checking behaviours, Rachman (2002) discusses excessive reassurance seeking as requests pertaining to the safety of a situation. Salkovskis and Warwick (1986) also discuss reassurance seeking as a key element of hypochondriasis, be it from medical professionals or significant others, and, for those with generalized anxiety disorder, reassurance seeking is described within the context of "… multiple, persistent searches for safety" (Woody & Rachman, 1994, p. 744).

A different conceptualization of excessive reassurance seeking should impact how excessive reassurance seeking is measured. It has been argued that the DIRI-RS is an inappropriate measure for assessing excessive reassurance seeking in anxiety, as it "… may have inadequate construct validity in the broader assessment of [excessive reassurance seeking] due to

its exclusive focus on perceived threats of social loss or rejection" (Rector, Kamkar, Cassin, Ayearst, & Laposa, 2011, p. 913).

Although the integrative model discussed in the current study is, again, grounded in the area of clinical depression, should the model be examined within the context of clinical anxiety, these conceptual differences must be addressed. Within recent years, newer measures that assess excessive reassurance seeking have appeared in the anxiety literature, making it possible to address these concerns. A Reassurance Seeking Scale was developed earlier in 2011 for the same reason as discussed above: "The existing measures of reassurance seeking were not designed to assess diverse triggers for seeking reassurance in the anxiety disorders, and instead, assess reassurance only with a limited set of items pertaining to perceived social threats in the context of depression situations" (Rector et al., 2011, p. 913). This scale was based on anxiety-related triggers of excessive reassurance seeking as well as clinical experiences with individuals receiving treatment for anxiety. The final scale consists of 30 items that ask individuals to indicate how often they sought reassurance in certain situations. Three factors emerged: reassurance seeking pertaining to decision-making ("when you doubt a decision," "when you have to choose among alternative options"), social attachment ("to get approval from others," "to whether you are loved or cared"), and general threat ("to prevent the occurrence of a catastrophic event," "to whether something bad is going to happen to you"). All three subscales possessed good internal consistency and were significantly correlated with both anxious and depressive symptoms (Rector et al., 2011). Although the "social attachment" subscale does seem similar to the depressive conceptualization of reassurance seeking, that all three subscales of the measure showed an association with anxious and depressive symptoms suggests a lack of specificity.

Most recently, Cougle et al. (2012) posited that two types of "anxious" excessive reassurance seeking existed. The first of these is "related to general threats" and "… is carried out to receive assurance from others that negative outcomes will not occur" (p. 118). The second type of reassurance seeking "… is more self-focused and evaluative in nature and is carried out so that the individual is assured that others do not think negatively of him or her" (p. 118). They, too, write that those previous studies that have examined specificity to depression have done so without considering "… the threat-related nature of reassurance-seeking that is often reported by individuals with anxiety disorders" (p. 118). Cougle et al. then developed an eight-item Threat-related Reassurance Seeking Scale (TRSS) containing two four-item subscales to reflect their conceptualization: one measured reassurance seeking related to a general threat and one measured reassurance seeking related to an evaluative threat. For purposes of clarification, excessive reassurance seeking related to an evaluative threat is dissimilar to depressive excessive reassurance seeking, as evaluative reassurance seeking is focused more on asking others if they believe that something is "wrong" with the individual, if they frequently require reassurance from others that there is nothing wrong with the individual, and so on.

After examining the psychometric properties of the scale and finding them sound (e.g., a Cronbach's alpha of 0.93 for the total scale; a one-month test-retest reliability of 0.84), the authors examined how the scale related to several other measures of both depressive and anxious symptoms, including the DIRI-RS as a measure of depressive reassurance seeking (Cougle et al., 2012). Participants included 173 primarily female students. They found that greater reassurance seeking (general, evaluative, and depressive) was associated with higher levels of generalized anxiety disorder symptoms (GAD), obsessive compulsive disorder (OCD) symptoms, and social anxiety symptoms, even after controlling for trait anxiety and BDI-II depressive symptoms;

however, hierarchical regression analyses showed that only general threat-related reassurance seeking was predictive of scores on measures examining symptoms of GAD, OCD, and social anxiety. Alternately, another hierarchical regression analysis showed that both depressive symptoms and levels of trait anxiety predicted general threat-related reassurance seeking; furthermore, GAD symptoms, OCD symptoms, and social anxiety symptoms all significantly contributed to the prediction of general threat-related reassurance seeking beyond depressive symptoms and trait anxiety (Cougle et al., 2012).

Gender differences were also reported, in that women displayed higher levels of excessive reassurance seeking than did men, and, also among women, higher reassurance seeking was associated with higher levels of GAD symptoms; this latter finding was not seen with men, and the researchers speculated that "… gender role norms may account for the lower reported [excessive reassurance seeking] and the absence of significant associations between [excessive reassurance seeking] and GAD symptoms among men" (Cougle et al., 2012, p. 124). That gender differences continue to be found in the excessive reassurance seeking literature provides further impetus for continuing to explore and clarify the role of gender in the associations between excessive reassurance seeking, negative feedback seeking, and depressive symptoms.

The above studies provide support for the idea that reassurance seeking looks different in anxiety disorders and so must be measured differently. Further evidence that reassurance seeking behavior differs for those with an anxiety disorder as compared to those with depression can be seen in a study by Parrish and Radomsky (2010), who examined the content, triggers, function, and termination criteria of excessive reassurance seeking and repeated checking among individuals with either OCD or depression using another newly-developed measure to assess this

behaviour. The researchers administered an Interview for Compulsive Checking and Reassurance-Seeking Behavior (ICCRS) – which they developed "… to elucidate factors that may contribute to onset, maintenance, and termination of reassurance-seeking and checking episodes, as well as to clarify the functions of these behaviours" (p. 213) – to 15 participants with OCD, 15 participants with major depressive disorder, and 20 control participants. Descriptive analyses revealed that those with OCD most frequently sought reassurance with respect to perceived general threats, such as whether or not the stove was left off; several also sought reassurance with respect to perceived social threats, such as whether or not somebody cared (Parrish & Radomsky, 2010). The most common form of reassurance sought by those with MDD and by the healthy control group was related to perceived social threats. Several in the MDD group sought reassurance with respect to personal performance/competence, and the third most common for the MDD group – and the second most common for the healthy control group – was reassurance about perceived general threats (Parrish & Radomsky, 2010). These groups also differed in triggers of reassurance seeking, function of reassurance seeking, the reasons for terminating this behaviour, and the experience of the onset of reassurance seeking. Future research could extend this line of investigation to determine how reassurance seeking may look in other anxiety disorders and how this would differ from its manifestation in OCD and/or depression.

Similarly, research has been done that has found an association between reassurance seeking and anxiety, and this association may have been found because the authors conceptualized reassurance seeking differently from "depressive" reassurance seeking. For instance, Heerey and Kring (2007) examined social interactions that took place between two nonsocially anxious people or one nonsocially anxious person and a socially anxious person.

Participants included 120 undergraduates and classifications of "socially anxious" were made based on scores on a measure examining interaction anxiety; all dyads were same sex. These dyads were placed in a room for five minutes and instructed to get to know each other. These interactions were videotaped and coders later examined nonverbal and verbal behaviour. These researchers found that socially anxious participants engaged in more reassurance seeking than did the nonsocially anxious dyads; furthermore, they tended to engage in more reassurance seeking than did their nonsocially anxious conversation partner. Upon closer examination, however, the study conceptualized "reassurance seeking" such that it consisted of complaints, apologies, and direct requests for advice, support, or agreement. Even still, such behaviour among the nonsocially anxious dyads and with socially anxious participants did result in a decrease of the partner's perceived quality of interaction (Heerey & Kring, 2007).

Similarly, in a study that examined strategies used to deal with obsessive intrusive thoughts, a comparison of individuals with OCD, a depressive disorder, a non-OCD anxiety disorder, and no clinical disorder revealed that those with OCD reported seeking reassurance more often than any of the other groups in response to these thoughts (Morillo, Belloch, & Garcia-Soriano, 2007). Mention is made that, in this context, reassurance is sought to ensure that an intrusive thought has not come true, in which case, again, "reassurance seeking" has been given a different conceptualization (Morillo, Belloch, & Garcia-Soriano, 2007). Additionally, an earlier study also found evidence to support the idea that those with OCD engaged in reassurance seeking as a means of dealing with the disorder, but no formal definition of the construct was provided, thereby leaving the reader unsure as to what this reassurance seeking looked like (Freeston & Ladouceur, 1997).

As relates to the current study's focus on an integrative model, it is not only excessive reassurance seeking that has been examined within anxiety. Negative feedback seeking has also been examined with respect to social anxiety, as "the self-verification view of social anxiety suggests that some problematic interpersonal behaviours that contribute to social anxiety are performed with the goal of maintaining a negative self-image" (Valentiner, Skowronski, McGrath, Smith, & Renner, 2011, p. 602). To further examine this within the context of social anxiety, a revised FSQ has been used that added three new domains and asked about feedback preferences within these three domains: social (affection), social (friendship), and social (intimacy). This addition allowed the researchers to distinguish between more general negative feedback and negative social feedback. Participants included 317 students. Unadjusted correlations showed an association between negative social feedback and social anxiety, but this association disappeared after controlling for social self-esteem. A second study made use of 62 clinical patients in an intensive outpatient program that ran for four days a week, typically lasting two to three weeks; it had them fill out study questionnaires prior to entering treatment and after the end of treatment. Participants were grouped based on diagnoses: social anxiety primary diagnosis group, social anxiety secondary diagnosis group, and non-social anxiety disorder group. In this study, the relations between preference for negative social feedback and social anxiety were significant at both pre- and post-treatment. Treatment reduced social anxiety in the social anxiety disorder primary and secondary diagnosis groups, but there was no impact on negative social feedback preference. As such, these results are "… consistent with the absence of a direct path from social anxiety to preference for negative social feedback" (p. 610). These findings do support the study discussed earlier by Borelli and Prinstein (2006), who found a correlation between negative feedback seeking and social anxiety among youth.

These broader conceptualizations of both excessive reassurance seeking and negative feedback seeking may therefore allow a better understanding of how interpersonal behaviours are associated with clinical anxiety. This discussion also begs the following questions: could an integrated model be developed for clinical anxiety? Could an integrated model be developed that incorporates both depressive and anxious symptoms?

There is much work that would have to occur before such a model could be developed. For instance, it seems that a consensus exists as to how excessive reassurance seeking looks and is measured in the depressive literature; however, it appears that no such consensus has yet been reached in the anxiety literature, as can be seen by these recently developed scales, each of which has different factors or subscales conveying different types of "anxious" excessive reassurance seeking. Such new measures, however, should continue to be investigated and validated in further research.

Certainly, a broader conceptualization of excessive reassurance seeking and negative feedback seeking may be enlightening with respect to specificity – for instance, are only certain types of excessive reassurance seeking specific to depression? That all three subscales of the measure developed by Rector, Kamkar, Cassin, Ayearst, and Laposa (2011) showed an association with anxious and depressive symptoms suggests a lack of specificity; however, Parrish and Radomsky (2010) did find evidence to suggest that excessive reassurance seeking looks different for those with OCD and those with depression. Additionally, the role played by gender in the associations between these behaviours and anxious symptoms should be clarified, especially as there is evidence to suggest that some of these relations may differ for males and females (Cougle et al., 2012).

Limitations and Suggestions for Future Research

Although this study does contribute to existing knowledge about excessive reassurance seeking, suggesting that interpersonal rejection mediates the association between excessive reassurance seeking and depressive symptoms, one must be cautious when interpreting and generalizing these results due to the study's small sample size and the limitations associated with such a small sample size. A small sample size reduces both the variability of the data and the statistical power necessary to obtain results that are significantly different from chance. As mentioned, the study's hypotheses were only partially supported; it could be that the small sample size, and the resultant lack of statistical power, inhibited the researchers' ability to find results that would fully support the study hypotheses. Furthermore, one must be wary about generalizing from a study that makes use of a small sample, as results may not be reflective of a larger population. As such, the results of this study should be viewed as preliminary findings to be further examined and expanded upon in future research.

A statistical power analysis suggested a sample size of 112 participants was necessary in order to obtain significant and meaningful results. Unfortunately, this sample size could not be obtained within the time constraints of the current project. Ideally, the study would have obtained such a number of participants who could be distributed equally among the symptom groups. Should a longer time period for data collection been a reality, or should this study have taken place in a larger city with more available mental health treatment facilities, it is likely that such a number could be obtained. With a larger sample size, and with presumably larger numbers of participants in each of the symptom groups, the specificity hypothesis could have been examined. A larger sample size would also presumably see more male participants, thereby allowing the analyses to be run separately for males and females to determine if the associations

between the study's variables of interests looked differently for each. The use of a community control group could also enlarge the study's sample size and provide an enlightening comparison of an integrative model in both clinical and nonclinical samples.

Furthermore, as briefly discussed in the Participants section above, some of the intake clinicians at the first clinical site used their discretion and were selective in approaching clients with whom to discuss the study. Additionally, group therapy leaders at both sites were not consistent in discussing the study with certain groups; not all available groups that were running during the participant recruitment period were approached, as some group therapy leaders simply forgot to discuss the study with them. Forgetting to approach these groups also resulted in the two clinical sites' ending data collection at different times. Such human error was something over which the researchers had no control and which would have impacted the size and composition of the study's clinical sample. As intake clinicians may not have approached those individuals with more severe mental health or cognitive impairments, this sample may not have been representative of all individuals who were referred for treatment at this time. By excluding such individuals from the opportunity to participate, the sample may have consisted primarily of those who had relatively milder symptoms. Furthermore, excluding those who may have been most troubled or "symptomatic" could have impacted the study's ability to find significant results, especially with respect to an association between negative feedback seeking and depressive symptoms.

Another limitation of the current study is that there was no way of discerning by which method (i.e., intake assessment or group therapy) the participants were "recruited." Knowledge of which method was more "successful" may be useful in planning future studies. Similarly, there was also no way of discerning from which of the two clinical sites the returned

questionnaires came. As mentioned, one of the two clinical sites catered to clientele with more severe mental health impairments. Knowing such information would be helpful in describing more about the composition of the sample.

Several directions for future research have been made above, such as the continuation of this line of questioning to further solidify the findings of the present study and to solidify the findings of past research – those that this study did not support. In addition to these suggestions, it is recommended that a longitudinal design be employed, thereby allowing examination of the temporal sequence of the integrative model. Furthermore, an oft-cited criticism of the excessive reassurance seeking and negative feedback seeking literature is that studies in this area rely on self-report measures and almost exclusively on the DIRI-RS and FSQ. As discussed above, the validity of the FSQ is questionable, as it is not known whether interest in negative feedback is related to an individual's actually seeking that feedback. Newer self-report measures can be used in future research; several have been mentioned in the above discussion of excessive reassurance seeking and anxiety, and should these measures continue to receive empirical support of their psychometric properties, these newer measures could be candidates for use. As was also discussed above, it would be helpful to have a well-researched measure of perceived interpersonal rejection for use should future researchers desire a self-report methodology. Some studies, too, have employed more observational methods of assessing excessive reassurance seeking and negative feedback seeking, relying on videotaped conversations taking place within a research setting and coders who analyze the recorded discussions. It can be argued that such observational methods are more valid as they actually see participants engaging in the targeted behaviours instead of discussing their interest in engaging in them. To extend upon these methods, a more "naturalistic" setting could be used, such that participants' conversations take

place within the household, the roommate environment, and so on. Such research could also examine different interpersonal contexts, such as how the associations between these variables look for romantic relationships (married, dating, or common-law), friendships, child-parent relationships, roommates, and so on. The point has also been made that further research may delve into the type of reassurance given to individuals, such as whether or not the reassurance is ambiguous or sincere (Parrish & Radomsky, 2010). It would also be interesting to examine these behaviours longitudinally for individuals who are undergoing treatment, and to see how these behaviours may differ based upon the type of treatment received. Finally, examining how excessive reassurance seeking and negative feedback seeking relate to socially desirable responding may be worth further study; in addition to the Marlowe-Crowne Social Desirability Scale, employing such measures as the Paulhus Deception Scales may yield interesting results, as the Paulhus Deception Scales differentiate between types of socially desirable responding: impression management and self-deceptive enhancement (Multi-Health Systems Inc., 2013). The former "… can be understood as response distortion aimed at improving one's impression on other people" whereas the latter "… can be understood as response distortion involving the need for favorable self-presentation" (Ventimiglia & MacDonald, 2012, p. 488).

Conclusions

This study found an association between excessive reassurance seeking and depressive symptoms, although no such association was found when examining negative feedback seeking and depressive symptoms. Furthermore, the association between excessive reassurance seeking and depressive symptoms was fully mediated by interpersonal rejection. Thus, Hypothesis I (predicting an association between depressive symptoms and both excessive reassurance seeking and negative feedback seeking) and Hypothesis II (predicting that these associations would be

mediated by perceived interpersonal rejection) were partially supported. Exploratory analyses found no evidence for the role of self-esteem as a moderator of the associations between depressive symptoms and excessive reassurance seeking, negative feedback seeking, and perceived rejection; however, self-esteem was a significant independent predictor of depressive symptoms. Due to a small sample size, the researchers' third hypothesis regarding specificity to anxiety could not be examined due to the lack of a purely anxious group of participants, nor could the study analyses be run separately for males and females to explore any possible differences in these associations.

This study found an association between excessive reassurance seeking and both rejection and depression, and previous research has supported such associations for negative feedback seeking. This speaks to a need to address such behaviours within a clinical context, as social support is important in the recovery from depression. Social skills training may, for instance, be offered to those individuals who engage in these behaviours, or a more specific form of treatment – tailored to address these behaviours – may be developed.

With respect to the literature, there are, ultimately, several additional gaps and unanswered questions upon which future research may build, including specificity of excessive reassurance seeking and negative feedback seeking to depression and the roles played by self-esteem and gender. The reconciliation of excessive reassurance and negative feedback seeking within a model of depression would be enlightening with respect to the role of interpersonal behaviours in the onset and maintenance of clinical depression, and it is necessary that such a model include perceived rejection. Information about this model should also include what would happen to the associations between excessive reassurance seeking, negative feedback seeking, perceived rejection, and depressive symptoms should these interpersonal behaviours be targeted

in a treatment program; as such, an integrated model could – and should – have an applied purpose.

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Appendix A

Demographic Questionnaire

Thank you for participating in this research study. By completing and returning these questionnaires, you are agreeing that you have read the research letter for this study and agree to participate in the research titled "Social Behaviours in Clinical Outpatients." You understand the potential risks and benefits of this study and will remain anonymous in any publication/presentation of the research findings. All information is confidential and will only be seen by the research team. As a volunteer, you do not have to participate, nor do you have to answer any question you do not wish to answer. You will still receive treatment from St. Joseph's Care Group and/or Thunder Bay Regional Health Sciences Centre regardless of whether you participate in this research. All information will remain securely stored at St. Joseph's Care Group/Thunder Bay Regional Health Sciences Centre and Lakehead University for a period of five years. Your identity will not be revealed in any presentation or report of the study's findings. You must be 18 years of age or older to participate in this research.

Please begin by answering the following questions.

1. **Sex:**
   - □ Male
   - □ Female
   - □ Do not wish to answer

2. **Age: _____ (years)**

3. **Ethnicity:**
   - □ White
   - □ Chinese
   - □ South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)
   - □ Black
   - □ Filipino
   - □ Latin American
   - □ Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian, etc.)
   - □ Other (specify: _____)
   - □ Arab
   - □ West Asian (e.g., Iranian, Afghan, etc.)
   - □ Korean
   - □ Japanese
   - □ First Nations
   - □ Métis
   - □ Inuit
   - □ Do not wish to answer

5. **Marital Status:**

□ Never legally married (single)

□ Legally married (and not separated)

□ Separated, but still legally married

□ Divorced

□ Widowed

□ Do not wish to answer

6. **What is the highest level of education <u>completed</u>?**

□ Elementary school □ College/university

□ High school □ Post graduate degree

□ Do not wish to answer

7. **What is your total household income?**

□ Below $20,000 □ $60,001 - $80,000

□ $20,001 - $40,000 □ $80,001 - $100,000

□ $40,001 - $60,000 □ $100,001 +

□ Do not wish to answer

7. Have you ever received a mental health diagnosis?

□ Yes □ No □ Do not wish to answer

If yes, what diagnosis? (please list all) _____

_____

_____

_____

When did you receive each diagnosis? (month/year) _____

_____

_____

_____

8. Are you currently receiving treatment for a mood disorder such as depression or bipolar disorder? (check as many as apply)

□ No
□ Do not wish to answer
□ Yes – medication
□ Yes – psychotherapy/counseling
□ Yes – other type of treatment (specify: _____
_____)

9. Have you previously received treatment for a mood disorder such as depression or bipolar disorder? (check as many as apply)

□ No
□ Do not wish to answer
□ Yes – medication
□ Yes – psychotherapy/counseling
□ Yes – other type of treatment (specify: _____
_____)

10. Are you currently receiving treatment for an anxiety disorder such as generalized anxiety disorder or posttraumatic stress disorder? (check as many as apply)

□ No
□ Do not wish to answer
□ Yes – medication
□ Yes – psychotherapy/counseling
□ Yes – other type of treatment (specify: _____
_____)

11. Have you previously received treatment for an anxiety disorder such as generalized anxiety disorder or posttraumatic stress disorder? (check as many as apply)

□ No

□ Do not wish to answer

□ Yes – medication

□ Yes – psychotherapy/counseling

□ Yes – other type of treatment (specify: _____

_____)

Appendix B

Depressive Interpersonal Relationships Inventory

Please use the following scale to respond to the questions below.

Not at all 1 2 3 4 5 6 7 Very much

_____ 1. How important is it to you to *always* have an ongoing romantic relationship?

_____ 2. To what degree do you need other people in order to feel okay about yourself?

_____ 3. How important is it to you to receive positive comments from the people you feel close to?

_____ 4. Do you often fear being rejected by those you love?

_____ 5. Do you often fear being criticized by those you love?

_____ 6. To what degree do you depend on the people you feel close to for meeting your needs?

_____ 7. How hard do you try to fulfill the needs of the people you feel close to?

_____ 8. Do you feel resentful when you do not get your way with the people you feel close to?

_____ 9. To what degree will you go out of your way to preserve friendships?

_____ 10. How important is it for you to always be accepted by your friends?

_____ 11. To what degree does it hurt when you feel criticized by someone you feel close to?

_____ 12. Do you often find yourself giving in to the wishes of others?

_____ 13. To what degree do you go along with others so they will still like you?

_____ 14. In general, how sincere are the people you feel close to?

_____ 15. How sincere are the people you feel close to when they tell you how they feel about you?

_____ 16. Do you often wonder whether people you feel close to are sincere when they compliment you?

_____ 17. Do you often think that people you feel close to may not truly care about you even when they say they do?

_____ 18. To what degree are you dependent on the people you feel close to?

_____ 19. Do you feel worthless without the approval of others?

_____ 20. Do you find yourself often asking the people you feel close to how they *truly* feel about you?

_____ 21. Do you frequently seek reassurance from the people you feel close to as to whether they *really* care about you?

_____ 22. Do the people you feel close to sometimes become irritated with you for seeking reassurance from them about whether they *really* care about you?

_____ 23. Do the people you feel close to sometimes get “fed up” with you for seeking reassurance from them about whether they *really* care about you?

_____ 24. When it comes to the people you feel close to, how certain are you that they *really* care about you?

Appendix C

Feedback Seeking Questionnaire

This questionnaire features five (5) areas of questions. Each area lists questions about a specific area: social, intellectual, artistic/musical, physical appearance, and sports.

In completing this questionnaire, please envision another person with whom you have a close relationship. If we were to ask this person these questions about you, which two (2) questions from each area would you most like to have answered about you?

The type of close relationship partner that I would hypothetically like to have answer these questions is:

Choose only one

- ☐ romantic partner
- ☐ close friend
- ☐ parent
- ☐ sibling
- ☐ Other: *(provide details)* _____

Please select the two questions from each of the five areas that you would most like to have someone else answer about you. (Remember, the other person won't really be asked to answer these questions.)

Please read over the entire list in an area before you decide on your questions. Remember, you are choosing ONLY two questions per area that you would like to have someone with whom you are in a close relationship answer about you. Also, please remember that the other person will not actually be asked to answer these questions.

Area I (Social)

1. What is some evidence you have seen that *(say your own name here)* has good social skills?
2. What is some evidence you have seen that *(say your own name here)* doesn't have very good social skills?
3. What about *(say your own name here)* makes you think s/he would be confident in social situations?
4. What about *(say your own name here)* makes you thinks/he doesn't have much social confidence?
5. In terms of social competence, what is *(say your own name here)*'s best asset?
6. In terms of social competence, what is *(say your own name here)*'s worst asset?

From the list above, what are the top two questions would you like someone to answer about you?

Enter the two question numbers in the boxes: ☐☐

Area II (Intellectual)

7. What are some signs you have seen that *(say your own name here)* is above average in overall intellectual ability?
8. What are some signs you have seen that *(say your own name here)* is below average in overall intellectual ability?
9. What about *(say your own name here)* makes you think s/he would have academic problems?
10. What about *(say your own name here)* makes you think s/he would do well academically?
11. What academic subjects would you expect *(say your own name here)* to be especially good at?
12. What academic subjects would you expect to prove difficult for *(say your own name here)*? Why?

From the list above, what are the top two questions would you like someone to answer about you?

Enter the two question numbers in the boxes: ☐☐

Area III (Artistic/Musical)

13. What about *(say your own name here)* makes you think he or she would be a poor artist or musician?
14. What about *(say your own name here)* makes you think he or she is musically or artistically talented?
15. What is *(say your own name here)*'s greatest artistic or musical talent?
16. Why is *(say your own name here)* unlikely to do well at creative activities?
17. What about *(say your own name here)* makes you think s/he is very imaginative?
18. In the area of art or music, what is *(say your own name here)*'s biggest limitation?

From the list above, what are the top two questions would you like someone to answer about you?

Enter the two question numbers in the boxes: ☐☐

Area IV (Physical Appearance)

19. Why do you think people of the opposite sex would find *(say your own name here)* attractive?
20. Why do you think people of the opposite sex would find *(say your own name here)* unattractive?
21. What do you see as *(say your own name here)*'s least physically attractive features?
22. What do you see as *(say your own name here)*'s most physically attractive features?
23. Why should *(say your own name here)* feel confident of his/her appearance?
24. Why might *(say your own name here)* have little confidence in his/her appearance?

From the list above, what are the top two questions would you like someone to answer about you?

Enter the two question numbers in the boxes: ☐☐

Area V (Sports)

25. What are some sports you would expect *(say your own name here)* to be especially good at? Why?
26. What are some sports you would expect *(say your own name here)* to have problems with? Why?
27. What about *(say your own name here)* allows him/her to be a good athlete?
28. What about *(say your own name here)* prevents him/her from becoming a good athlete?
29. What is *(say your own name here)*'s greatest natural athletic talent?
30. What natural athletic ability does *(say your own name here)* possess least?

From the list above, what are the top two questions would you like someone to answer about you?

Enter the two question numbers in the boxes: ☐☐

Appendix D

Rosenberg Self-Esteem Scale

Please record the appropriate answer for each item, depending on whether you strongly disagree, disagree, agree, or strongly agree with it.

1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strongly Agree

_____ 1. On the whole, I am satisfied with myself.

_____ 2. At times I think I am no good at all.

_____ 3. I feel that I have a number of good qualities.

_____ 4. I am able to do things as well as most other people.

_____ 5. I feel I do not have much to be proud of.

_____ 6. I certainly feel useless at times.

_____ 7. I feel that I am a person of worth, at least on an equal plane with others.

_____ 8. I wish I could have more respect for myself.

_____ 9. All in all, I am inclined to feel that I am a failure.

_____ 10. I take a positive attitude toward myself.

Appendix E

Acceptability to Others Subscale

Please use the following scale to respond to the questions below.

VERY RARELY 1 2 3 4 5 ALMOST ALWAYS

_____ 1. People are quite critical of me.

_____ 2. I feel “left out,” as if people don’t want me around.

_____ 3. People seem to respect my opinion about things.

_____ 4. People seem to like me.

_____ 5. Most people seem to understand how I feel about things.

Appendix F

Marlowe-Crowne Social Desirability Scale

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is *true* or *false* as it pertains to you personally.

_____ 1. Before voting I thoroughly investigate the qualifications of all the candidates.

_____ 2. I never hesitate to go out of my way to help someone in trouble.

_____ 3. It is sometimes hard for me to go on with my work if I am not encouraged.

_____ 4. I have never intensely disliked anyone.

_____ 5. On occasion I have had doubts about my ability to succeed in life.

_____ 6. I sometimes feel resentful when I don't get my way.

_____ 7. I am always careful about my manner of dress.

_____ 8. My table manners at home are as good as when I eat out in a restaurant.

_____ 9. If I could get into a movie without paying and be sure I was not seen I would probably do it.

_____ 10. On a few occasions, I have given up doing something because I thought too little of my ability.

_____ 11. I like to gossip at times.

_____ 12. There have been times when I felt like rebelling against people in authority even though I knew they were right.

_____ 13. No matter who I'm talking to, I'm always a good listener.

_____ 14. I can remember "playing sick" to get out of something.

_____ 15. There have been occasions when I took advantage of someone.

_____ 16. I'm always willing to admit it when I make a mistake.

_____ 17. I always try to practice what I preach.

_____ 18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.

_____ 19. I sometimes try to get even rather than forgive and forget.

_____ 20. When I don't know something I don't at all mind admitting it.

_____ 21. I am always courteous, even to people who are disagreeable.

_____ 22. At times I have really insisted on having things my own way.

_____ 23. There have been occasions when I felt like smashing things.

_____ 24. I would never think of letting someone else be punished for my wrongdoings.

_____ 25. I never resent being asked to return a favor.

_____ 26. I have never been irked when people expressed ideas very different from my own.

_____ 27. I never make a long trip without checking the safety of my car.

_____ 28. There have been times when I was quite jealous of the good fortune of others.

_____ 29. I have almost never felt the urge to tell someone off.

_____ 30. I am sometimes irritated by people who ask favors of me.

_____ 31. I have never felt that I was punished without cause.

_____ 32. I sometimes think when people have a misfortune they only got what they deserved.

_____ 33. I have never deliberately said something that hurt someone's feelings.